

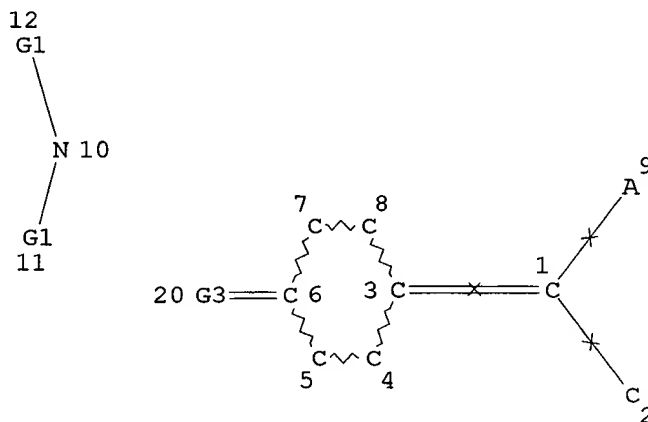
09/407007

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L1 STR
O 26 S 27 N 28

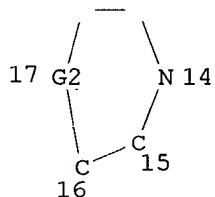
H 21 Cb 22Ak 23O 24 N 25

C 13



18 19
C—C

Page 1-A



Page 2-A

VAR G1=21/22/23/24/25/13

VAR G2=26/27/28

VAR G3=10/14

NODE ATTRIBUTES:

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DEFAULT MLEVEL IS ATOM
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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 28

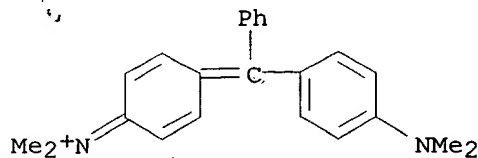
STEREO ATTRIBUTES: NONE

L2 3438 SEA FILE=REGISTRY SSS FUL L1
L5 9622 SEA FILE=HCAPLUS ABB=ON PLU=ON L2
L6 98 SEA FILE=HCAPLUS ABB=ON PLU=ON (PHOTOINITIAT? OR PHOTO
INITIAT?) AND L5
L7 49 SEA FILE=HCAPLUS ABB=ON PLU=ON (PHOTOINITIAT? OR PHOTO
INITIAT?)/IT AND L5
L8 23 SEA FILE=HCAPLUS ABB=ON PLU=ON ?RADIAT? (L) L6
L9 5 SEA FILE=HCAPLUS ABB=ON PLU=ON L8 NOT L7
L10 54 SEA FILE=HCAPLUS ABB=ON PLU=ON L7 OR L9

L10 ANSWER 1 OF 54 HCAPLUS COPYRIGHT 2000 ACS
 AN 1999:595504 HCAPLUS
 DN 131:206981
 TI Process for continuous liquid processing of photosensitive compositions
 having reduced residues
 IN McKeever, Mark Robert
 PA E.I. Du Pont De Nemours and Company, USA
 SO PCT Int. Appl., 31 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 IC ICM G03F007-30
 ICS G03F007-031; G03F007-42
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other
 Reprographic Processes)
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9946644	A1	19990916	WO 1999-US4819	19990305
W: BR, CN, JP, KR, MX				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				

PRAI US 1998-38584 19980311
 AB Minimization of residue or sludge formation during continuous liq.
 processing of aq. soln.-developable photosensitive compns. is realized
 through the use of a photoinitiator of a hexaarylbiimidazole compd. having
 at least one hydrophilic group.
 ST aq developable photoresist reduced residue hexaarylbiimidazole
 photoinitiator
 IT Photoimaging materials
 Photoresists
 (aq. soln.-developable; contg. hexaarylbiimidazole
 photoinitiators for reduced residue or sludge formation)
 IT 90-93-7 94-97-3 103-01-5 119-61-9, uses **569-64-2**
 603-48-5 611-91-6 1842-62-2 3710-84-7 5495-84-1 9003-11-6
 10287-53-3 21245-02-3 25035-88-5 25133-97-5 25852-49-7
 28571-95-1 39420-45-6 41637-38-1 60932-58-3, 1H-
 Benzotriazolecarboxylic acid 71002-23-8 100486-97-3 124354-60-5
 176511-25-4
 RL: TEM (Technical or engineered material use); USES (Uses)
 (aq. soln.-developable photoimaging compns. and photoresists with
 reduced residue formation contg.)
 RE.CNT 2
 RE
 (1) Mitsubishi Kasei Corp; JP 07010913 A 1995
 (2) Toyobo KK; JP 62174204 A 1987
 IT **569-64-2**
 RL: TEM (Technical or engineered material use); USES (Uses)
 (aq. soln.-developable photoimaging compns. and photoresists with
 reduced residue formation contg.)
 RN 569-64-2 HCAPLUS
 CN Methanaminium, N-[4-[[4-(dimethylamino)phenyl]phenylmethylene]-2,5-
 cyclohexadien-1-ylidene]-N-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

L10 ANSWER 2 OF 54 HCAPLUS COPYRIGHT 2000 ACS

AN 1999:566276 HCAPLUS

DN 131:206974

TI Curable compositions

IN Hall, Stephen Anthony; Steer, Julian Mark

PA Coates Brothers PLC, UK

SO PCT Int. Appl., 19 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM G03F007-038

ICS C08F004-34; C08F008-14; C08F212-08; C08F222-06; C08F222-08

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9944100	A1	19990902	WO 1999-GB598	19990226
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	GB 2334719	A1	19990901	GB 1998-4267	19980227
	AU 9932611	A1	19990915	AU 1999-32611	19990226
PRAI	GB 1998-4267		19980227		
	WO 1999-GB598		19990226		
AB	The invention is directed to compns. that are thermally curable and/or curable by radiation, e.g., UV radiation. A curable compn. with an enhanced drying window for use in a primary or secondary imaging system is obtainable as the reaction product or an anhydride polymer and at least an ethylenically unsatd. material having .gtoreq.1 hydroxy groups. The anhydride functional polymer is obtainable as the reaction product of an ethylenically unsatd. monomer material and a cyclic anhydride capable of reacting with the unsatd. monomer material. The latter reaction is effected in the presence of a free-radical initiator with a low-H abstracting capability. This is defined as an initiator having a H bond dissocn. energy of .ltoreq.430 KJ/mol.				
ST	curable anhydride polymer drying window imaging; solder resist epoxy resin printed circuit; chem etching epoxy resin printed circuit				
IT	Coating materials				
	(UV-curable; thermally curable and/or radiation (UV)-curable resins for use either as etch resists or as solder resists in printed circuit boards)				
IT	Epoxy resins, uses				
	RL: NUU (Nonbiological use, unclassified); TEM (Technical or engineered material use); USES (Uses)				
	(acrylates; thermally curable and/or radiation (UV)-curable resins for use either as etch resists or as solder resists in printed circuit				

boards)

IT Coating materials
(radiation-curable; thermally curable and/or radiation (UV)-curable resins for use either as etch resists or as solder resists in printed circuit boards)

IT Printed circuit boards
Resists
(thermally curable and/or radiation (UV)-curable resins for use either as etch resists or as solder resists in printed circuit boards)

IT 14807-96-6, Talc ($\text{Mg}_3\text{H}_2(\text{SiO}_3)_4$), uses
RL: MOA (Modifier or additive use); NUU (Nonbiological use, unclassified); USES (Uses)
(IT Extra, filler; thermally curable and/or radiation (UV)-curable resins for use either as etch resists or as solder resists in printed circuit boards)

IT 15625-89-5, TMPTA
RL: NUU (Nonbiological use, unclassified); TEM (Technical or engineered material use); USES (Uses)
(TMPTA; thermally curable and/or radiation (UV)-curable resins for use either as etch resists or as solder resists in printed circuit boards)

IT 155683-81-1, BYK 55
RL: MOA (Modifier or additive use); NUU (Nonbiological use, unclassified); USES (Uses)
(flow aid; thermally curable and/or radiation (UV)-curable resins for use either as etch resists or as solder resists in printed circuit boards)

IT 5495-84-1, QUANTACURE ITX 71868-10-5, IRGACURE 907
RL: MOA (Modifier or additive use); NUU (Nonbiological use, unclassified); USES (Uses)
(**photoinitiator**; thermally curable and/or radiation (UV)-curable resins for use either as etch resists or as solder resists in printed circuit boards)

IT 240800-57-1, RR 9F
RL: NUU (Nonbiological use, unclassified); RCT (Reactant); USES (Uses)
(stripper; thermally curable and/or radiation (UV)-curable resins for use either as etch resists or as solder resists in printed circuit boards)

IT **548-62-9**, Crystal Violet
RL: MOA (Modifier or additive use); NUU (Nonbiological use, unclassified); USES (Uses)
(thermally curable and/or radiation (UV)-curable resins for use either as etch resists or as solder resists in printed circuit boards)

IT 240111-63-1P, Styrene-maleic anhydride-hydroquinone-2-hydroxyethyl acrylate-propylene glycol methyl ether-1-methylimidazole copolymer
RL: NUU (Nonbiological use, unclassified); PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(thermally curable and/or radiation (UV)-curable resins for use either as etch resists or as solder resists in printed circuit boards)

RE.CNT 3

RE

(1) Kawasaki Steel Co; EP 0499271 A 1992

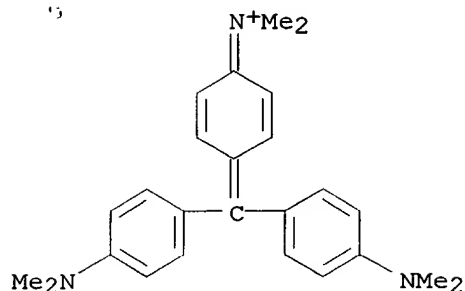
(2) Mohammed, T; US 4939198 A 1990 HCAPLUS

(3) Mohammed, T; US 5082910 A 1992

IT **548-62-9**, Crystal Violet
RL: MOA (Modifier or additive use); NUU (Nonbiological use, unclassified); USES (Uses)
(thermally curable and/or radiation (UV)-curable resins for use either as etch resists or as solder resists in printed circuit boards)

RN 548-62-9 HCAPLUS

CN Methanaminium, N-[4-[bis[4-(dimethylamino)phenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

L10 ANSWER 3 OF 54 HCAPLUS COPYRIGHT 2000 ACS

AN 1999:566275 HCAPLUS

DN 131:191861

TI Imaging system employing encapsulated radiation-sensitive composition

IN Polycarpov, Alex; Camillus, Joseph C.

PA Cycolor, Inc., USA

SO PCT Int. Appl., 20 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM G03F007-029

ICS G03F007-00

CC 74-4 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9944099	A1	19990902	WO 1999-US4131	19990225
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9927902	A1	19990915	AU 1999-27902	19990225
PRAI US 1998-75892		19980225		
WO 1999-US4131		19990225		
OS MARPAT 131:191861				
AB	A photosensitive imaging is disclosed comprising a support having a layer of microcapsules on 1 surface thereof, the microcapsules having an image-forming agent assocd. therewith and contg. an internal phase including a photohardenable compn., the compn. comprising a free-radical addn. polymerizable or crosslinkable compd. and complex of an IR-sensitive cationic dye and a borate anion being capable of absorbing IR radiation and producing free radicals which initiate free-radical polymn. or crosslinking of the polymerizable or crosslinkable compd.			
ST	imaging encapsulated radiation microcapsule electron donor; free radical polymn triphenyl butyl borane; cyanine dye free radical polymn imaging			
IT	Photoimaging materials (imaging system using encapsulated radiation-sensitive compn. contg. IR-sensitive cyanine dye photoinitiator)			
IT	Dyes (photosensitizing; imaging system using encapsulated radiation-sensitive compn. contg. IR-sensitive cyanine dye photoinitiator)			
IT	Polymerization (radical; imaging system using encapsulated radiation-sensitive compn.			

contg. IR-sensitive cyanine dye **photoinitiator**)
 IT 136107-30-7 137781-62-5 141563-94-2 141563-95-3 **141714-54-7**
 141714-60-5 141714-62-7 141714-63-8 **142282-45-9**
 142300-12-7 142632-62-0 142632-63-1 142632-65-3 148630-91-5
 148630-94-8 148630-96-0 148630-97-1 148630-99-3 148631-01-0
 148631-03-2 148631-04-3 148631-07-6 148657-93-6 148657-94-7
 149580-25-6 149580-27-8 149580-28-9 153296-41-4 240406-03-5
 240406-04-6 240421-22-1 240421-23-2 240421-24-3 240421-25-4
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 240421-33-4 240421-34-5 240421-35-6 240421-37-8 240421-38-9
 240421-39-0 240421-40-3 240421-41-4 240421-42-5 240421-43-6
 240421-45-8 240421-47-0 240421-49-2 240421-50-5 240421-51-6
 RL: NUU (Nonbiological use, unclassified); RCT (Reactant); USES (Uses)
 (imaging system using encapsulated radiation-sensitive compn. contg.
 IR-sensitive cyanine dye **photoinitiator**)

RE.CNT 4

RE

- (1) Showa Denko Kabushiki Kaisha; EP 0438123 A 1991
- (2) Showa Denko Kk; JP 04261405 A 1992
- (3) The Mead Corporation; EP 0223587 A 1987
- (4) The Mead Corporation; EP 0408227 A 1991

IT **141714-54-7 142282-45-9**

RL: NUU (Nonbiological use, unclassified); RCT (Reactant); USES (Uses)
 (imaging system using encapsulated radiation-sensitive compn. contg.
 IR-sensitive cyanine dye **photoinitiator**)

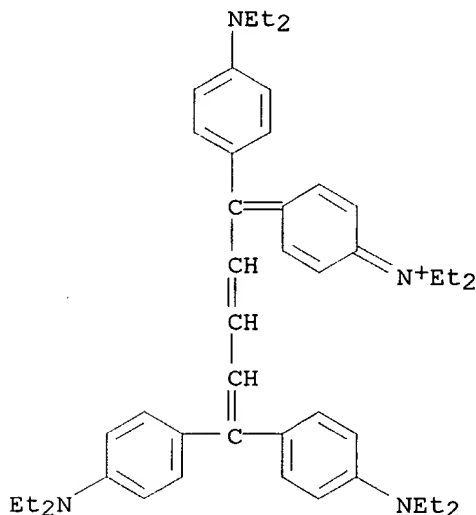
RN 141714-54-7 HCAPLUS

CN Ethanaminium, N-ethyl-N-[4-[1,5,5-tris[4-(diethylamino)phenyl]-2,4-pentadienylidene]-2,5-cyclohexadien-1-ylidene]-, (T-4)-butyltriphenylborate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 96233-23-7

CMF C45 H59 N4



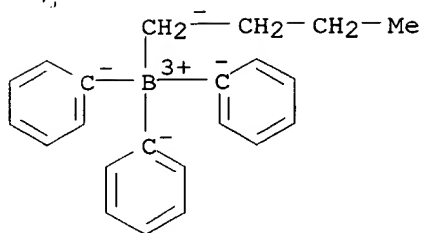
CM 2

CRN 47252-39-1

CMF C22 H24 B

CCI CCS

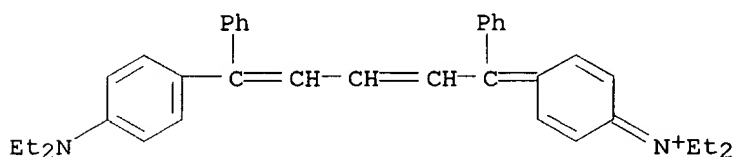
CDES 7:T-4



RN 142282-45-9 HCAPLUS
 CN Ethanaminium, N-[4-[5-[4-(diethylamino)phenyl]-1,5-diphenyl-2,4-pentadienylylidene]-2,5-cyclohexadien-1-ylidene]-N-ethyl-, (T-4)-butyltriphenylborate(1-) (9CI) (CA INDEX NAME)

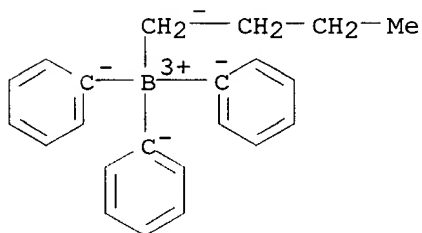
CM 1

CRN 119934-76-8
 CMF C37 H41 N2



CM 2

CRN 47252-39-1
 CMF C22 H24 B
 CCI CCS
 CDES 7:T-4



L10 ANSWER 4 OF 54 HCAPLUS COPYRIGHT 2000 ACS
 AN 1999:490066 HCAPLUS
 DN 131:158915
 TI Method and photo-curable materials for use in covering or repairing of inner surface of tubular moldings
 IN Watanabe, Takeo; Kamata, Hirotoshi; Sugita, Shuichi; Ohtani, Kazuo; Yamamoto, Tomio; Sendai, Hidetake
 PA Showa Denko K. K., Japan; Showa Highpolymer Co., Ltd.
 SO Jpn. Kokai Tokkyo Koho, 15 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM F16L058-10
 ICS B29C063-26; C08F002-48; C08F283-01; C08F290-06; C08K005-5397; C08L067-06; C09J007-02
 CC 42-10 (Coatings, Inks, and Related Products)

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11210981	A2	19990806	JP 1998-22722	19980120
OS	MARPAT 131:158915				
AB	The covering or repairing of tubular moldings such as pipes and tubes is done by using tubes or fabrics which have been impregnated with a photo-curable mixt. contg. (A) 100 parts unsatd. polyesters or/and vinyl ester resins, and (B) 0.01-20 parts bisacylphosphine oxides. Thus, roll-dipping a mixt. of an unsatd. polyester derived from neopentyl glycol, diethylene glycol, isophthalic acid and fumaric acid in styrene (35%), 100, bis(2,6-dimethoxybenzoyl)-2,4,4-trimethylpentylphosphine oxide (as photoinitiator) 1.0, and Aerosil 200 (thixotropic agent) 0.8 part on a single-side transparent polyurethane-coated polyester felt and debubbling gave a material which could be cured with metal halide lamp by radiation through the transparent polyurethane layer.				
ST	pipe repairing photocurable fabric material; tube repairing photocurable fabric material; unsatd polyester impregnated felt tube lining; bisacyl phosphine oxide photoinitiator photocurable pipe repairing				
IT	Glass fiber fabrics RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses) (FW 350; method and photo-curable materials for use in covering or repairing of inner surface of tubular moldings)				
IT	Epoxy resins, uses RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses) (acrylates; method and photo-curable materials for use in covering or repairing of inner surface of tubular moldings)				
IT	Pipes and Tubes Thickening agents Thixotropic agents (method and photo-curable materials for use in covering or repairing of inner surface of tubular moldings)				
IT	Polyester fibers, uses RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses) (nonwoven, Sontara 8005H; method and photo-curable materials for use in covering or repairing of inner surface of tubular moldings)				
IT	Polymerization catalysts (photopolymn.; method and photo-curable materials for use in covering or repairing of inner surface of tubular moldings)				
IT	Polyesters, uses RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses) (unsatd.; method and photo-curable materials for use in covering or repairing of inner surface of tubular moldings)				
IT	471-34-1, Softon 1200, uses RL: MOA (Modifier or additive use); USES (Uses) (additives; method and photo-curable materials for use in covering or repairing of inner surface of tubular moldings)				
IT	120307-06-4, Tetrabutylammonium butyltriphenylborate 141714-54-7 , 1,1,5,5-Tetrakis(p-diethylaminophenyl)-2,4-pentadienilium n-butyltriphenylborate RL: CAT (Catalyst use); USES (Uses) (co- photoinitiator ; method and photo-curable materials for use in covering or repairing of inner surface of tubular moldings)				
IT	7631-86-9, Aerosil 200, uses RL: MOA (Modifier or additive use); USES (Uses) (colloidal, thixotropic agent; method and photo-curable materials for use in covering or repairing of inner surface of tubular moldings)				
IT	100-42-5, uses RL: MOA (Modifier or additive use); USES (Uses) (crosslinkers for photo-curable impregnation varnish; method and photo-curable materials for use in covering or repairing of inner surface of tubular moldings)				
IT	28262-39-7, Bisphenol A-epichlorohydrin-methacrylic acid-styrene copolymer				

171408-67-6, Diethylene glycol-fumaric acid-isophthalic acid-neopentyl glycol-styrene copolymer
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (method and photo-curable materials for use in covering or repairing of inner surface of tubular moldings)

IT 145052-34-2, Bis(2,6-Dimethoxybenzoyl)-2,4,4-trimethylpentylphosphine oxide 162881-26-7, Bis(2,4,6-trimethylbenzoyl)phenylphosphine oxide
 RL: CAT (Catalyst use); USES (Uses)
 (**photoinitiator**; method and photo-curable materials for use in covering or repairing of inner surface of tubular moldings)

IT 101-68-8 1309-48-4, Magmic, uses 21645-51-2, Higilite H 320, uses 39394-41-7, Isonate 143L
 RL: MOA (Modifier or additive use); USES (Uses)
 (thickeners; method and photo-curable materials for use in covering or repairing of inner surface of tubular moldings)

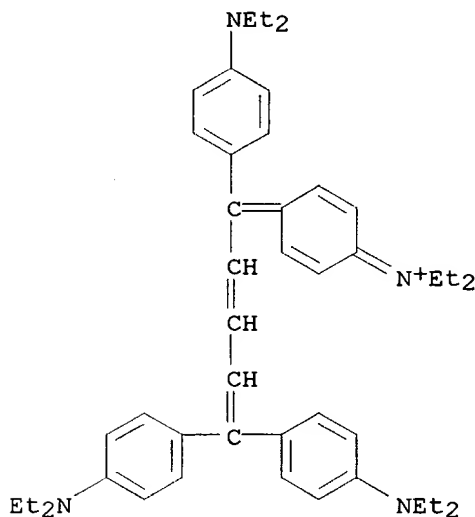
IT 79819-01-5, Talen 7200-20
 RL: MOA (Modifier or additive use); USES (Uses)
 (thixotropic agent; method and photo-curable materials for use in covering or repairing of inner surface of tubular moldings)

IT 141714-54-7, 1,1,5,5-Tetrakis(p-diethylaminophenyl)-2,4-pentadienilium n-butyltriphenylborate
 RL: CAT (Catalyst use); USES (Uses)
 (co-**photoinitiator**; method and photo-curable materials for use in covering or repairing of inner surface of tubular moldings)

RN 141714-54-7 HCAPLUS
 CN Ethanaminium, N-ethyl-N-[4-[1,5,5-tris[4-(diethylamino)phenyl]-2,4-pentadienylidene]-2,5-cyclohexadien-1-ylidene]-, (T-4)-butyltriphenylborate(1-) (9CI) (CA INDEX NAME)

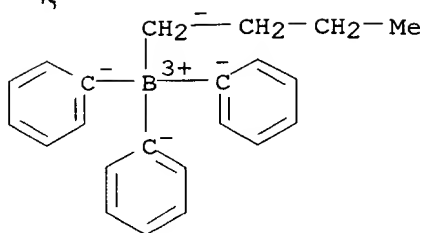
CM 1

CRN 96233-23-7
 CMF C45 H59 N4



CM 2

CRN 47252-39-1
 CMF C22 H24 B
 CCI CCS
 CDES 7:T-4



L10 ANSWER 5 OF 54 HCAPLUS COPYRIGHT 2000 ACS
 AN 1999:469815 HCAPLUS
 DN 131:244630
 TI Photocuring activity of several commercial, near UV activated
 photoinitiator in clear and pigmented systems
 AU Segurolo, Juan; Allen, Norman S.; Edge, Michele; Parrondo, Aitor; Roberts,
 Ian
 CS Department of Chemistry and Materials, The Manchester Metropolitan
 University, Manchester, M1 5GD, UK
 SO J. Coat. Technol. (1999), 71(894), 61-67
 CODEN: JCTEDL; ISSN: 0361-8773
 PB Federation of Societies for Coatings Technology
 DT Journal
 LA English
 CC 42-12 (Coatings, Inks, and Related Products)
 AB Photoinitiators have been analyzed by UV spectroscopy to evaluate the type
 of electronic transitions occurring upon absorption of light. Photocuring
 was studied by real time IR spectroscopy (RTIR) in clear and pigmented
 (black, magenta, cyan, and yellow) systems with UV and visible light at
 different photoinitiator concns. in the presence of air. Generally, the
 Type I photofragmenting photoinitiators appear to operate more effectively
 under UV excitation when compared with the Type II thioxanthenes, esp. in
 pigmented systems. There is a reasonable correlation between the UV and
 visible absorption properties of the resp. initiators and their overlap
 with the excitation source.
 ST near UV photoinitiator spectroscopy; electronic transition photoinitiator
 ink; pigment ink UV crosslinking
 IT Carbon black, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (Pigment Black 7; photocuring activity of near UV activated
photoinitiator in clear and pigmented systems)
 IT Inks
 (photocurable; photocuring activity of near UV activated
photoinitiator in clear and pigmented systems)
 IT Electronic transition
 Pigments, nonbiological
 UV and visible spectroscopy
 (photocuring activity of near UV activated **photoinitiator** in
 clear and pigmented systems)
 IT Polymerization catalysts
 (photopolymer.; photocuring activity of near UV activated
photoinitiator in clear and pigmented systems)
 IT IR spectroscopy
 (real-time; photocuring activity of near UV activated
photoinitiator in clear and pigmented systems)
 IT 119313-12-1, Irgacure 369
 RL: CAT (Catalyst use); USES (Uses)
 (Irgacure 369; photocuring activity of near UV activated
photoinitiator in clear and pigmented systems)
 IT 162881-26-7, Irgacure 819
 RL: CAT (Catalyst use); USES (Uses)
 (Irgacure 819; photocuring activity of near UV activated
photoinitiator in clear and pigmented systems)
 IT 71868-10-5, Irgacure 907
 RL: CAT (Catalyst use); USES (Uses)

(Irgacure 907; photocuring activity of near UV activated **photoinitiator** in clear and pigmented systems)

IT 189146-15-4, Lucirin TPO
 RL: CAT (Catalyst use); USES (Uses)
 (Lucirin TPO; photocuring activity of near UV activated **photoinitiator** in clear and pigmented systems)

IT 71798-70-4, Pigment Blue 11
 RL: TEM (Technical or engineered material use); USES (Uses)
 (Pigment Blue 11; photocuring activity of near UV activated **photoinitiator** in clear and pigmented systems)

IT 147-14-8, Pigment Blue 15:3
 RL: TEM (Technical or engineered material use); USES (Uses)
 (Pigment Blue 15:3; photocuring activity of near UV activated **photoinitiator** in clear and pigmented systems)

IT 5281-04-9, Pigment Red 57:1
 RL: TEM (Technical or engineered material use); USES (Uses)
 (Pigment Red 57:1; photocuring activity of near UV activated **photoinitiator** in clear and pigmented systems)

IT 5102-83-0, Pigment Yellow 13
 RL: TEM (Technical or engineered material use); USES (Uses)
 (Pigment Yellow 13; photocuring activity of near UV activated **photoinitiator** in clear and pigmented systems)

IT 142770-42-1, Quantacure CPTX
 RL: CAT (Catalyst use); USES (Uses)
 (Quantacure CPTX; photocuring activity of near UV activated **photoinitiator** in clear and pigmented systems)

IT 5495-84-1, Quantacure ITX
 RL: CAT (Catalyst use); USES (Uses)
 (photocuring activity of near UV activated **photoinitiator** in clear and pigmented systems)

IT 244177-09-1, Actilane 432-Ebecryl 870 copolymer
 RL: TEM (Technical or engineered material use); USES (Uses)
 (photocuring activity of near UV activated **photoinitiator** in clear and pigmented systems)

RE.CNT 20

RE

- (1) Allen, N; Eur Polymer J 1988, V24(5), P435 HCAPLUS
 - (2) Allen, N; J Chem Soc Faraday Trans 1994, V90(1), P83 HCAPLUS
 - (3) Allen, N; Photopolymerization and Photoimaging Science and Technology 1986
 - (4) Borzel, P; DE 3304524 1983 HCAPLUS
 - (5) Collins, G; Journal of Coatings Technology 1976, V48(618), P48 HCAPLUS
 - (6) Desobry, V; Radiation Curing of Polymeric Materials 1990, P92 HCAPLUS
 - (7) Fouassier, J; Prog Org Coat 1995, V25, P235 HCAPLUS
 - (8) Hageman, J; Makromol Chemie 1988, V189, P2781
 - (9) Holman, R; UV and EB Curing Formulation for Printing Inks Coatings and Paints 1988
 - (10) Jacobi, M; J Radiation Curing 1983, V19(4), P16
 - (11) Limure, T; Proc Conference Radiation Curing Asia 1988, V461
 - (12) Marsman, M; Proc Conference Radtech Europe 1991, V440
 - (13) Murray, K; WO 90113579 1989
 - (14) Oldring, P; Chemistry and Technology of UV and EB Formulation of Coatings Inks and Paints 1991, P1
 - (15) Pappas, S; UV Curing-Science and Technology 1978
 - (16) Phillips, R; J Oil & Colour Chemists' Assoc 1978, V6, P233
 - (17) Roffey, C; Photopolymerization of Surface Coatings 1982
 - (18) Rutsch, W; Proc of the 16th Intl Conference in Organic Coating Science and Technology 1990, V423
 - (19) Valet, A; Fourth Nurnberg Congress 1997, P4
 - (20) Yoshiyuki, K; US 5013768 1989
- IT 71798-70-4, Pigment Blue 11
 RL: TEM (Technical or engineered material use); USES (Uses)
 (Pigment Blue 11; photocuring activity of near UV activated **photoinitiator** in clear and pigmented systems)
- RN 71798-70-4 HCAPLUS
- CN Methanaminium, N-[4-[[4-(dimethylamino)phenyl][4-(ethylamino)-1-naphthalenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, tungstatephosphate (9CI) (CA INDEX NAME)

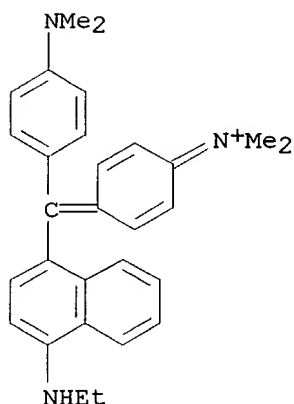
CM 1

CRN 51434-49-2
CMF Unspecified
CCI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 47700-00-5
CMF C29 H32 N3



L10 ANSWER 6 OF 54 HCAPLUS COPYRIGHT 2000 ACS

AN 1999:451328 HCAPLUS

DN 131:88877

TI Photocurable adhesive compositions, their manufacture and use in resin laminates having leather like layer

IN Sygita, Shuichi; Watanabe, Takeo; Ooga, Kazuhiko; Kimura, Yoshio; Watanabe, Yoshihiro

PA Showa Denko K.K., Japan; Tokuyama Petrochemical Co., Ltd.

SO PCT Int. Appl., 43 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

IC ICM C09J004-06

ICS B32B007-12; B32B005-18

CC 38-3 (Plastics Fabrication and Uses)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9935200	A1	19990715	WO 1998-JP3227	19980717
	W: US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				

	JP 11254608	A2	19990921	JP 1998-48779	19980213
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PRAI JP 1998-16395 19980112

JP 1998-48779 19980213

OS MARPAT 131:88877

AB The adhesive compns. comprise essentially a chlorinated polyolefin compd., a compd. having a polymerizable unsatd. group, and a photopolymn. initiator, and optionally contain a tackifier, where the photopolymn. initiator is preferably of visible light- or/and near-IR-sensitive compd. The compns. can form strong bonding directly between a resin foam and the back of a skin material without the needs of surface prepn. or primer to give a laminate with good rigidity, heat resistance, and impact resistance. Thus, mixing Superchlon 892L (chlorinated polypropylene; 20% solids content) 300 with FA 511A (dicyclopentenyl acrylate) 18, a

photosensitizer 0.3, tetrabutylammonium butyltriphenylborate 1.2, and acryloyl morpholine 11 parts gave an adhesive. Coating the adhesive on a polypropylene substrate to liq. pickup wt. 150 g/m², drying at 120.degree. for 2 min, cooling, laminating with a single-sided PVC-laminated foamed polypropylene sheet via the foam layer under a pressure of 1 kg/cm², and irradiating with IR lamp from 10-cm for 2 min gave a laminate with flexural strength 330 kg/cm², falling dart impact strength 165 kg-cm and excellent interlayer adhesion strength.

ST vinyl leather laminate manuf photocurable adhesive; chlorinated polypropylene photocurable adhesive compn; foam laminate adhesive photocurable chlorinated polypropylene

IT Polyurethanes, uses
 RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
 (leather substitute foam backing; photocurable adhesive compns., manuf. and use in resin laminates)

IT Adhesives
 Leather substitutes
 (photocurable adhesive compns., manuf. and use in resin laminates)

IT Polymerization
 Polymerization catalysts
 (photopolymn., visible or near-IR; photocurable adhesive compns., manuf. and use in resin laminates)

IT Neoprene rubber, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (tackifier; photocurable adhesive compns., manuf. and use in resin laminates)

IT 9002-86-2, PVC
 RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
 (leather substitute facing; photocurable adhesive compns., manuf. and use in resin laminates)

IT 9010-98-4
 RL: MOA (Modifier or additive use); USES (Uses)
 (neoprene rubber, tackifier; photocurable adhesive compns., manuf. and use in resin laminates)

IT 229469-10-7, Acryloylmorpholine-dicyclopentenyl acrylate-dimethyloltricyclodecane diacrylate-Superchlon 892L copolymer
 229469-11-8, Acryloylmorpholine-dicyclopentenyl acrylate-Superchlon 892L-UA 306H graft copolymer 229469-12-9, Acryloylmorpholine-dicyclopentenyl acrylate-DPE6A-Superchlon 892L copolymer 229469-13-0, Acryloylmorpholine-dicyclopentenyl acrylate-Superchlon 892L-Superchlon 842LM graft copolymer 229469-14-1, Acryloylmorpholine-dicyclopentenyl acrylate-Hardlen 13LB-Superchlon 892L graft copolymer 229469-15-2, Acryloylmorpholine-dicyclopentenyl acrylate-Hardlen 15LPB-Superchlon 892L graft copolymer 229966-23-8, Acryloylmorpholine-dicyclopentenyl acrylate-Superchlon 892L graft copolymer
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (photocurable adhesive compns., manuf. and use in resin laminates)

IT 120307-06-4, Tetrabutylammonium butyltriphenylborate
 RL: CAT (Catalyst use); USES (Uses)
 (photoinitiators; photocurable adhesive compns., manuf. and use in resin laminates)

IT 55636-80-1 96233-23-7
 RL: MOA (Modifier or additive use); USES (Uses)
 (photosensitizers; photocurable adhesive compns., manuf. and use in resin laminates)

IT 9003-07-0, Polypropylene
 RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
 (substrate or foam for leather substitutes; photocurable adhesive compns., manuf. and use in resin laminates)

RE.CNT 11

RE

(1) Hayakawa Gomu KK; JP 05-320582 A 1993

(2) Kansai Paint Co, Ltd; JP 58-162640 A 1983

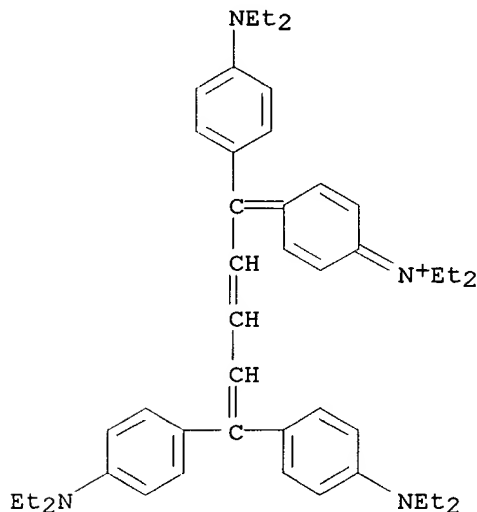
- (3) Kansai Paint Co, Ltd; JP 08-253736 A 1996
- (4) Showa Denko KK; JP 03-111402 A 1991
- (5) Showa Denko KK; JP 04-80204 A 1992
- (6) Showa Denko KK; JP 07-125120 A 1995
- (7) Showa Denko KK; EP 433870 A1 1995
- (8) The Kendoll Co; JP 02-3474 A 1990
- (9) The Kendoll Co; EP 326276 A3 1990
- (10) Toagosei Chemical Industry Co, Ltd; JP 04-15280 A 1992
- (11) Toyo Kasei Kogyo Co, Ltd; JP 04-142322 A 1992

IT 96233-23-7

RL: MOA (Modifier or additive use); USES (Uses)
 (photosensitizers; photocurable adhesive compns., manuf. and use in resin laminates)

RN 96233-23-7 HCAPLUS

CN Ethanaminium, N-ethyl-N-[4-[1,5,5-tris[4-(diethylamino)phenyl]-2,4-pentadienylydene]-2,5-cyclohexadien-1-ylidene]- (9CI) (CA INDEX NAME)



L10 ANSWER 7 OF 54 HCAPLUS COPYRIGHT 2000 ACS

AN 1999:440066 HCAPLUS

DN 131:80774

TI Photoimaging composition containing photopolymerizable urethane oligomer

IN Barr, Robert; Lundy, Daniel E.; Kosaka, Eiichi; Murakami, Shigeru

PA Nichigo Morton Co., Ltd., Japan

SO Eur. Pat. Appl., 7 pp.

CODEN: EPXXDW

DT Patent

LA English

IC ICM G03F007-032

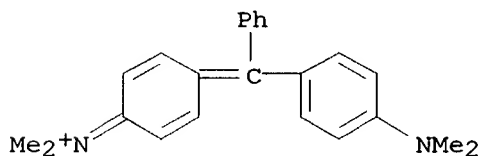
ICS G03F007-035

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

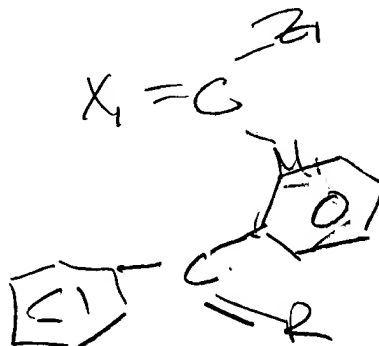
FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 927911	A2	19990707	EP 1998-309563	19981123
	EP 927911	A3	20000531		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	US 5939238	A	19990817	US 1998-88561	19980602
	AU 707217	B1	19990708	AU 1998-89530	19981027
	JP 11223945	A2	19990817	JP 1998-337103	19981127
	CN 1242528	A	20000126	CN 1998-123045	19981201
	JP 2000003035	A2	20000107	JP 1999-129219	19990510
	EP 962827	A2	19991208	EP 1999-304213	19990528
	EP 962827	A3	20000607		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO
 CN 1237720 A 19991208 CN 1999-108303 19990602
 PRAI US 1997-980686 19971201
 US 1997-982199 19971201
 US 1998-88561 19980602
 US 1998-118626 19980717
 OS MARPAT 131:80774
 AB A neg.-acting photoimaging compn. useful as a photoresist for manufg.
 printed circuit boards comprises (A) 30 to 70 wt.% of org. binder polymers
 having a sufficient acid functionality to render the photoimaging compn.
 developable in an alk. aq. soln. and comprising 3 to 65 wt.% of a polymer
 having a wt.-av. mol. wt. of 5000 to 40,000 and a Tg of 40 to 100.degree.
 and 5 to 67 wt.% of a polymer having a wt.-av. mol. wt. of 41,000 to
 200,000 and a Tg of 40 to 100.degree., (B) 30 to 60 wt.% of
 .alpha.,.beta.-ethylenically unsatd. compds. comprising an isocyanate
 trimer having a tri-.alpha.,.beta.-ethylenically unsatd. functionality,
 the trimer being present at 2 to 30 wt.%, and 0 to 5 wt.% of other
 .alpha.,.beta.-ethylenically unsatd. compds., at least about 50 mol
 percent of the .alpha.,.beta.-ethylenically unsatd. functionality being a
 methacrylate functionality, and (C) 0.5 to 15 wt.% of a **radiation**
 -sensitive free radical-generating **photoinitiator** system
 comprising 0.005 to 3 wt.% of triphenylphosphine and 0.005 to 2 wt.% of
 phenylglycine.
 ST photoimaging compn photoresist photopolymerizable urethane oligomer
 IT Negative photoresists
 (contg. photopolymerizable urethane oligomers)
 IT Printed circuit boards
 (neg. photoimaging compns. contg. photopolymerizable urethane oligomers
 for manuf. of)
 IT Photoimaging materials
 (neg.; contg. photopolymerizable urethane oligomers for prep. printed
 circuit boards)
 IT 70-55-3, p-Toluenesulfonamide 88-99-3, 1,2-Benzenedicarboxylic acid,
 uses 90-93-7, Michler's ethyl ketone 103-01-5 **569-64-2**,
 Malachite Green 602-56-2, 9-Phenylacridine 603-35-0,
 Triphenylphosphine, uses 603-48-5, Leuco crystal violet 6143-80-2
 26376-86-3, Modaflow
 RL: TEM (Technical or engineered material use); USES (Uses)
 (neg. photoimaging and photoresist compns. contg. photopolymerizable
 urethane oligomers and)
 IT 108-80-5D, Isocyanuric acid, urethane acrylate derivs. 27813-02-1,
 Propylene glycol monomethacrylate 41637-38-1, Bisphenol A ethoxylate
 dimethacrylate
 RL: TEM (Technical or engineered material use); USES (Uses)
 (photopolymerizable neg. photoimaging and photoresist compns. contg.)
 IT **569-64-2**, Malachite Green
 RL: TEM (Technical or engineered material use); USES (Uses)
 (neg. photoimaging and photoresist compns. contg. photopolymerizable
 urethane oligomers and)
 RN 569-64-2 HCAPLUS
 CN Methanaminium, N-[4-[[4-(dimethylamino)phenyl]phenylmethylene]-2,5-
 cyclohexadien-1-ylidene]-N-methyl-, chloride (9CI) (CA INDEX NAME)

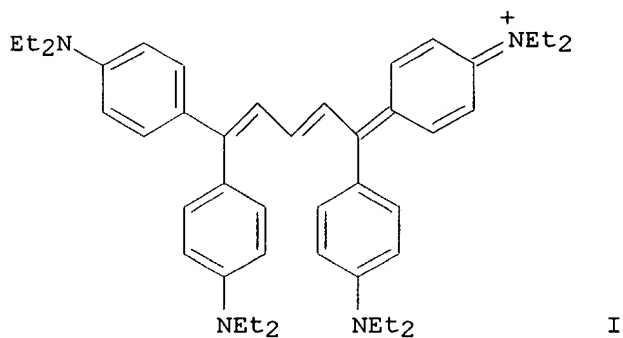


● Cl⁻



L10 ANSWER 8 OF 54 HCAPLUS COPYRIGHT 2000 ACS
 AN 1999:365794 HCAPLUS
 DN 131:45809
 TI Method for imparting adhesion to substrates and bonding method using
 photocurable compositions
 IN Sugita, Shuichi; Watanabe, Takeo; Oga, Kazuhiko; Kimura, Yoshio; Watanabe,
 Masahiro
 PA Showa Denko K. K., Japan; Tokuyama Sekiyu Kagaku K. K.
 SO Jpn. Kokai Tokkyo Koho, 15 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C09J004-00
 ICS C08F002-48; C09J005-02; C09J011-00
 CC 38-3 (Plastics Fabrication and Uses)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11152451	A2	19990608	JP 1997-337969	19971121
OS	MARPAT 131:45809				
GI					



AB The method comprises (1) applying **photoinitiator**-contg. photocurable comps. on one or both sides of substrates, (2) curing the adhesive sides partially by photo irradi., and optionally (3) laminating the adhesive sides. The bonding method are useful for automobile interior parts. Thus, an adhesive compn. contg. Superchlone 892L (carboxylic acid-modified chlorinated polypropylene) 300, FA 511A (dicyclopentenyl acrylate) 18, I (dye, max. absorption wavelength 822 nm) 0.3, tetrabutylammonium butyltriphenylborate 1.2, and acryloyl morpholine 11 parts was applied on MK 459B (propylene block copolymer, substrate), precured by IR irradi., laminated with PVC-laminated polypropylene foam, and **IR-irradiated** to give a test piece showing adhesion strength 2.1 and 1.4 kg/25 mm, at room temp. and 80.degree., resp.

ST photocurable adhesive precuring laminate automobile part; precuring photocurable adhesive cationic dye catalyst; chlorinated polypropylene adhesive interlayer adhesion strength; cyclopentenyl acrylate copolymer adhesive **IR radiation**; ammonium borate photopolymn catalyst

IT Dyes
 (cationic, photopolymn. initiators; laminates for automobile interiors prepd. by bonding polyolefins with photocurable adhesive comps.)

IT Polyolefins
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (chlorinated, adhesives; laminates for automobile interiors prepd. by bonding polyolefins with photocurable adhesive comps.)

IT Automobiles
 (interior parts; laminates for automobile interiors prepd. by bonding polyolefins with photocurable adhesive comps.)

IT, Adhesive bonding
(laminates for automobile interiors prepd. by bonding polyolefins with photocurable adhesive compns.)

IT Laminated plastics, uses
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(laminates for automobile interiors prepd. by bonding polyolefins with photocurable adhesive compns.)

IT IR **radiation**
(near-IR; laminates for automobile interiors prepd. by bonding polyolefins with photocurable adhesive compns.)

IT Borates
RL: CAT (Catalyst use); USES (Uses)
(org., photopolymn. initiators; laminates for automobile interiors prepd. by bonding polyolefins with photocurable adhesive compns.)

IT Adhesives
(photocurable; laminates for automobile interiors prepd. by bonding polyolefins with photocurable adhesive compns.)

IT Polymerization catalysts
(photopolymn.; laminates for automobile interiors prepd. by bonding polyolefins with photocurable adhesive compns.)

IT Carboxylic acids, uses
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(reaction products with chlorinated polypropylene, adhesives; laminates for automobile interiors prepd. by bonding polyolefins with photocurable adhesive compns.)

IT Plastic foams
Polyolefins
RL: TEM (Technical or engineered material use); USES (Uses)
(substrates; laminates for automobile interiors prepd. by bonding polyolefins with photocurable adhesive compns.)

IT 226995-25-1P, Acryloylmorpholine-FA 511A copolymer 226995-30-8P, Acryloylmorpholine-FA 511A-Light Acrylate DCP-A copolymer 226995-35-3P, Acryloylmorpholine-FA 511A-UA 306H copolymer 226995-39-7P, Acryloylmorpholine-DPE 6A-FA 511A copolymer
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(adhesive; laminates for automobile interiors prepd. by bonding polyolefins with photocurable adhesive compns.)

IT 9003-07-0D, Polypropylene, chlorinated, carboxylic acid-modified 138932-08-8, Hardlen 13LB 186467-44-7, Superchlon 892L 193700-17-3, Superchlon 842LM
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(adhesive; laminates for automobile interiors prepd. by bonding polyolefins with photocurable adhesive compns.)

IT 9003-07-0, Polypropylene
RL: TEM (Technical or engineered material use); USES (Uses)
(foam substrate; laminates for automobile interiors prepd. by bonding polyolefins with photocurable adhesive compns.)

IT 55636-80-1 120307-06-4, Tetrabutylammonium butyltriphenylborate **141714-54-7**
RL: CAT (Catalyst use); USES (Uses)
(photopolymn. initiators; laminates for automobile interiors prepd. by bonding polyolefins with photocurable adhesive compns.)

IT 9002-86-2, PVC
RL: TEM (Technical or engineered material use); USES (Uses)
(skin layer; laminates for automobile interiors prepd. by bonding polyolefins with photocurable adhesive compns.)

IT 115-07-1D, Propylene, block copolymer 220750-95-8, MK 459B
RL: TEM (Technical or engineered material use); USES (Uses)
(substrate; laminates for automobile interiors prepd. by bonding polyolefins with photocurable adhesive compns.)

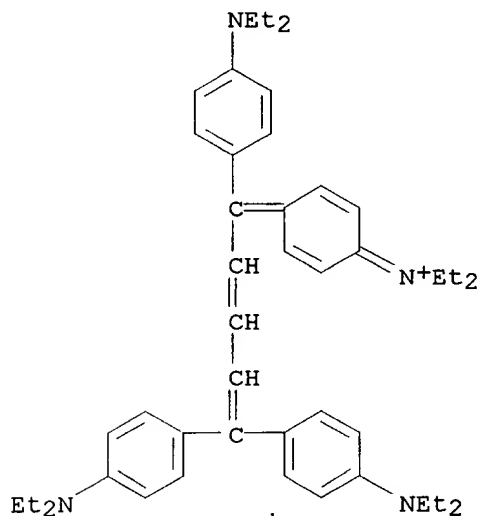
IT **141714-54-7**
RL: CAT (Catalyst use); USES (Uses)

(photopolymer. initiators; laminates for automobile interiors prepd. by bonding polyolefins with photocurable adhesive compns.)

RN 141714-54-7 HCAPLUS
CN Ethanaminium, N-ethyl-N-[4-[1,5,5-tris[4-(diethylamino)phenyl]-2,4-pentadienylidene]-2,5-cyclohexadien-1-ylidene]-, (T-4)-butyltriphenylborate(1-) (9CI) (CA INDEX NAME)

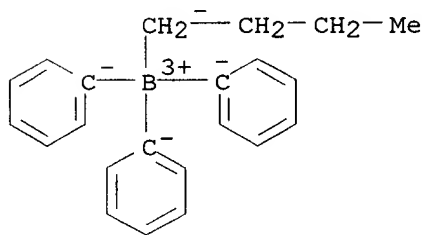
CM 1

CRN 96233-23-7
CMF C45 H59 N4



CM 2

CRN 47252-39-1
CMF C22 H24 B
CCI CCS
CDES 7:T-4

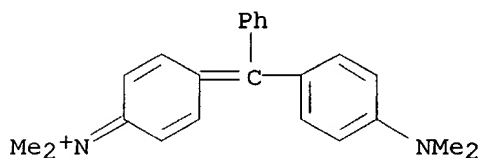


L10 ANSWER 9 OF 54 HCAPLUS COPYRIGHT 2000 ACS
AN 1999:261874 HCAPLUS
DN 130:345041
TI Photopolymer composition for flexible printed circuit board preparation
IN Kohata, Tatsuko; Ohta, Fumihiko; Akahori, Akihiko; Amanokura, Hitoshi;
Suzuki, Kenji; Nishizawa, Hiroshi
PA Hitachi Chemical Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 20 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G03F007-037
ICS C08F290-14; G03F007-004; H05K003-28

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11109626	A2	19990423	JP 1998-216613	19980731
	US 6060215	A	20000509	US 1998-49056	19980327
	CN 1201164	A	19981209	CN 1998-109690	19980330
PRAI	JP 1997-214810		19970808		
	JP 1997-80417		19970331		
AB	A pos. photopolymer compn. for flexible printed circuit board prepn. comprises a resin contg. amido, oxyalkylene, and carboxyl groups, a photopolymerizable compd. contg. an ethylenically unsatd. group, and a photoinitiator.				
ST	photopolymer compn flexible printed circuit board				
IT	Photoimaging materials (contg. ethylenically unsatd. compds., resins contg. amido, oxyalkylene, and carboxyl groups, and photoinitiators for prepn. of flexible printed circuit boards)				
IT	Printed circuit boards (photopolymer compns. contg. ethylenically unsatd. compds., resins contg. amido, oxyalkylene, and carboxyl groups, and photoinitiators for prepn. of)				
IT	Aminoplasts RL: TEM (Technical or engineered material use); USES (Uses) (pos. photopolymer compns. for flexible printed circuit board prepn. contg.)				
IT	51706-15-1, FG 3000 RL: TEM (Technical or engineered material use); USES (Uses) (FG 3000; pos. photopolymer compns. for flexible printed circuit board prepn. contg.)				
IT	70-55-3, p-Toluenesulfonamide 90-93-7, 4,4'- Bis(diethylamino)benzophenone 103-01-5, N-Phenylglycine 119-61-9, Benzophenone, uses 569-64-2 , Malachite Green 1563-76-4 9003-08-1, Cymel 300 9003-39-8, Poly(vinylpyrrolidone) 41637-38-1, BPE500 56792-06-4 139189-30-3, PX200 201302-26-3, Cyclohexanedimethanol-2-hydroxyethyl methacrylate- trimethylhexamethylenediisocyanate copolymer RL: TEM (Technical or engineered material use); USES (Uses) (pos. photopolymer compns. for flexible printed circuit board prepn. contg.)				
IT	79-41-4, reactions 85-43-8 103-83-3, Dimethylbenzylamine 30674-80-7 64772-16-3, Epomik R301 110368-93-9, Epo Tohto YDF-2001 RL: RCT (Reactant); TEM (Technical or engineered material use); USES (Uses) (reaction in prepg. resins for pos. photopolymer compns. for flexible printed circuit board prepn.)				
IT	25085-99-8, Epomik R140P RL: RCT (Reactant); TEM (Technical or engineered material use); USES (Uses) (reaction with amido oligomers in prepg. resins for pos. photopolymer compns. for flexible printed circuit board prepn.)				
IT	552-30-7, Trimellitic anhydride RL: RCT (Reactant); TEM (Technical or engineered material use); USES (Uses) (reaction with polyoxyalkylenediamines in prepg. resins for pos. photopolymer compns. for flexible printed circuit board prepn.)				
IT	91-08-7 RL: RCT (Reactant); TEM (Technical or engineered material use); USES (Uses) (reaction with polyoxyalkylenediimidodicarboxylic acid in prepg. resins for pos. photopolymer compns. for flexible printed circuit board prepn.)				
IT	100-21-0, 1,4-Benzenedicarboxylic acid, reactions 101-68-8 111-20-6, Decanedioic acid, reactions 121-91-5, 1,3-Benzenedicarboxylic acid, reactions 124-04-9, Hexanedioic acid, reactions 584-84-9 RL: RCT (Reactant); TEM (Technical or engineered material use); USES				

(Uses)
 (reaction with polyoxypropylenediamine in prepg. resins for pos. photopolymer compns. for flexible printed circuit board prepn.)
 IT 9046-10-0, Polyoxypropylenediamine 34901-14-9 65605-36-9
 RL: RCT (Reactant); TEM (Technical or engineered material use); USES (Uses)
 (reaction with trimellitic anhydride in prepg. resins for pos. photopolymer compns. for flexible printed circuit board prepn.)
 IT 569-64-2, Malachite Green
 RL: TEM (Technical or engineered material use); USES (Uses)
 (pos. photopolymer compns. for flexible printed circuit board prepn. contg.)
 RN 569-64-2 HCAPLUS
 CN Methanaminium, N-[4-[[4-(dimethylamino)phenyl]phenylmethylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

L10 ANSWER 10 OF 54 HCAPLUS COPYRIGHT 2000 ACS
 AN 1999:222758 HCAPLUS
 DN 131:4920
 TI Radical Addition Rate Constants to Acrylates and Oxygen: .alpha.-Hydroxy and .alpha.-Amino Radicals Produced by Photolysis of Photoinitiators
 AU Jockusch, Steffen; Turro, Nicholas J.
 CS Department of Chemistry, Columbia University, New York, NY, 10027, USA
 SO J. Am. Chem. Soc. (1999), 121(16), 3921-3925
 CODEN: JACSAT; ISSN: 0002-7863
 PB American Chemical Society
 DT Journal
 LA English
 CC 22-4 (Physical Organic Chemistry)
 Section cross-reference(s): 36
 AB Laser flash photolysis of .alpha.-hydroxy and .alpha.-amino ketones, which are used as photoinitiators in free radical polymn., lead to the generation of a series of nucleophilic .alpha.-hydroxy and .alpha.-amino radicals. Abs. addn. rate consts. of these radicals to n-butylacrylate and oxygen were measured by laser flash photolysis employing an indirect probe technique. Crystal violet and N,N'-bis(2,5-di-tert-butylphenyl)-3,4,9,10-perylenedicarboximide were used as selective probe mols. for these nucleophilic initiator radicals to measure the addn. rate consts. to n-butylacrylate and oxygen, resp. High acrylate addn. rate consts. of some initiator radicals were found in acetonitrile soln., e.g., dimethylketyl radical (kacrylate = 1.3 .times. 10⁷ M⁻¹ s⁻¹) and 2-morpholino propan-2-yl radical (kacrylate = 2.9 .times. 10⁷ M⁻¹ s⁻¹).
 ST photoinitiator radical polymn ketyl radical addn acrylate; amino radical addn acrylate photoinitiator radical polymn; LFP hydroxyketone aminoketone photoinitiator radical polymn; kinetics radical addn acrylate
 IT Ketones, reactions
 RL: RCT (Reactant)
 (amino, radical precursor; addn. kinetics of .alpha.-hydroxy and .alpha.-amino radicals to acrylates and to oxygen)
 IT Addition reaction
 Addition reaction kinetics
 (homolytic; addn. kinetics of .alpha.-hydroxy and .alpha.-amino radicals to acrylates and to oxygen)

IT, Amines, reactions
 RL: RCT (Reactant)
 (keto, radical precursor; addn. kinetics of .alpha.-hydroxy and .alpha.-amino radicals to acrylates and to oxygen)

IT Flash photolysis
 (laser flash photolysis of .alpha.-hydroxy and .alpha.-amino ketones, used as **photoinitiators** in radical polymn.)

IT Polymerization
 (radical; .alpha.-hydroxy and .alpha.-amino radicals produced by photolysis of **photoinitiators** in radical polymn.)

IT Radicals, reactions
 RL: FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); FORM (Formation, nonpreparative); PROC (Process)
 (.alpha.-amino and ketyl; addn. kinetics of .alpha.-hydroxy and .alpha.-amino radicals to acrylates and to oxygen)

IT Ketones, reactions
 RL: RCT (Reactant)
 (.alpha.-hydroxy, radical precursor; addn. kinetics of .alpha.-hydroxy and .alpha.-amino radicals to acrylates and to oxygen)

IT 4358-40-1, Methyl, tris[4-(dimethylamino)phenyl]-
 RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative)
 (addn. kinetics of .alpha.-hydroxy and .alpha.-amino radicals to acrylates and to oxygen)

IT 2143-60-4 5131-95-3 141888-27-9 225512-39-0 225512-40-3
 225512-41-4 225512-42-5
 RL: FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); FORM (Formation, nonpreparative); PROC (Process)
 (addn. kinetics of .alpha.-hydroxy and .alpha.-amino radicals to acrylates and to oxygen)

IT 141-32-2
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process)
 (addn. kinetics of .alpha.-hydroxy and .alpha.-amino radicals to acrylates and to oxygen)

IT 947-19-3, 1-Hydroxycyclohexyl phenyl ketone 71867-90-8 71868-10-5
 119312-97-9 119312-99-1 119313-12-1 119313-15-4 119345-00-5
 RL: RCT (Reactant)
 (addn. kinetics of .alpha.-hydroxy and .alpha.-amino radicals to acrylates and to oxygen)

IT 2652-65-5, Benzoyl radical 12771-59-4, Diphenylphosphinoyl
 RL: RCT (Reactant)
 (attempted reaction with crystal violet; addn. kinetics of .alpha.-hydroxy and .alpha.-amino radicals to acrylates and to oxygen)

IT 7473-98-5
 RL: RCT (Reactant)
 (radical precursor; addn. kinetics of .alpha.-hydroxy and .alpha.-amino radicals to acrylates and to oxygen)

IT 548-62-9, Crystal violet 83054-80-2,
 N,N'-Bis(2,5-di-tert-butylphenyl)-3,4,9,10-perylenedicarboximide
 RL: RCT (Reactant)
 (selective probe mol.; addn. kinetics of .alpha.-hydroxy and .alpha.-amino radicals to acrylates and to oxygen)

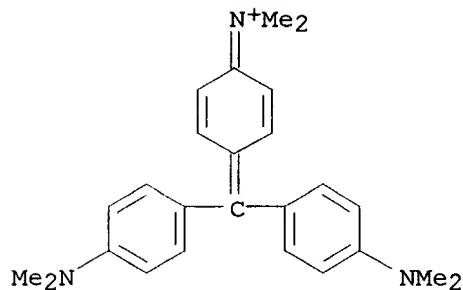
IT 7782-44-7, Oxygen, reactions
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process)
 (side reaction in radical polymn.; addn. kinetics of .alpha.-hydroxy and .alpha.-amino radicals to acrylates and to oxygen)

RE.CNT 31

RE

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 (30) Sluggett, G; J Am Chem Soc 1996, V118, P7367 HCAPLUS
 (31) Sumiyashi, T; Polymer 1985, V26, P141
 IT 548-62-9, Crystal violet
 RL: RCT (Reactant)
 (selective probe mol.; addn. kinetics of .alpha.-hydroxy and .alpha.-amino radicals to acrylates and to oxygen)
 RN 548-62-9 HCAPLUS
 CN Methanaminium, N-[4-[bis[4-(dimethylamino)phenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, chloride (9CI) (CA INDEX NAME)

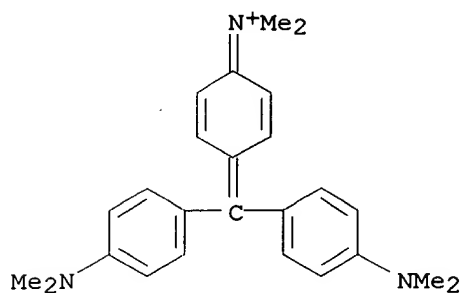


● Cl⁻

L10 ANSWER 11 OF 54 HCAPLUS COPYRIGHT 2000 ACS
 AN 1999:23280 HCAPLUS
 DN 130:111368
 TI Photopolymerizable compositions, resin compositions containing them, adhesives based on them, and laminated articles therewith
 IN Kimura, Yoshio; Hagiwara, Toshio
 PA Tokuyama Sekiyu Kagaku K. K., Japan
 SO Jpn. Kokai Tokkyo Koho, 10 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C08F004-04

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11001507	A2	19990106	JP 1997-172970	19970613
AB	The compns. polymerizable with visible or near IR light comprise monomers and/or oligomers contg. .gtoreq.1 ethylenically unsatd. bond, org. ionic colorants having absorption at visible or near IR regions, and org. azobis compds. Thus, a compn. comprising isobornyl acrylate 100, acryloylmorpholine 16, 2,2'-azobis(2,4-dimethylvaleronitrile) 1, and 1,1,5,5-tetrakis(4-diethylaminophenyl)pentadienylium p-toluenesulfonate (.lambda.max 820 nm) 0.1 part was sandwiched with polycarbonate (Panlite PC 111) plates or acrylic resin (Sumipeck 000) plates and irradiated with 370-900 nm light to give test pieces showing material failure in a bending adhesion test for both samples.				
ST	polymethine visible photoinitiator acrylic adhesive				
IT	Polyurethanes, uses RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (acrylic; visible light- or near IR-polymerizable acrylic adhesive compns. for plastic laminates)				
IT	Photopolymerization catalysts (ionic dyes and azobis compds.; visible light- or near IR-polymerizable acrylic adhesive compns. for plastic laminates)				
IT	Dyes (ionic; visible light- or near IR-polymerizable acrylic adhesive compns. for plastic laminates)				
IT	Photocurable adhesives (visible light- or near IR-polymerizable acrylic adhesive compns. for plastic laminates)				
IT	Laminated plastics, preparation RL: IMF (Industrial manufacture); PREP (Preparation) (visible light- or near IR-polymerizable acrylic adhesive compns. for plastic laminates)				
IT	Acrylic polymers, miscellaneous RL: MSC (Miscellaneous) (visible light- or near IR-polymerizable acrylic adhesive compns. for plastic laminates)				
IT	Polycarbonates, miscellaneous RL: MSC (Miscellaneous) (visible light- or near IR-polymerizable acrylic adhesive compns. for plastic laminates)				
IT	78-67-1, 2,2'-Azobisisobutyronitrile 81-88-9, Rhodamine B 548-62-9, Crystal Violet 573-58-0, Congo Red 3056-93-7, Astrazon Orange G 4419-11-8, 2,2'-Azobis(2,4-dimethylvaleronitrile) 23410-90-4 RL: CAT (Catalyst use); USES (Uses) (visible light- or near IR-polymerizable acrylic adhesive compns. for plastic laminates)				
IT	30323-87-6P, Isobornyl acrylate homopolymer 208394-44-9P, Acryloylmorpholine-isobornyl acrylate copolymer 219130-79-7P, Dicyclopentenyl acrylate-isobornyl acrylate copolymer 219130-80-0P, Acryloylmorpholine-phenoxyethyl acrylate copolymer 219772-31-3P RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (visible light- or near IR-polymerizable acrylic adhesive compns. for plastic laminates)				
IT	9011-14-7 96420-85-8, Panlite PC 111 RL: MSC (Miscellaneous) (visible light- or near IR-polymerizable acrylic adhesive compns. for plastic laminates)				
IT	548-62-9, Crystal Violet 23410-90-4 RL: CAT (Catalyst use); USES (Uses) (visible light- or near IR-polymerizable acrylic adhesive compns. for plastic laminates)				
RN	548-62-9 HCAPLUS				

CN, Methanaminium, N-[4-[bis[4-(dimethylamino)phenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

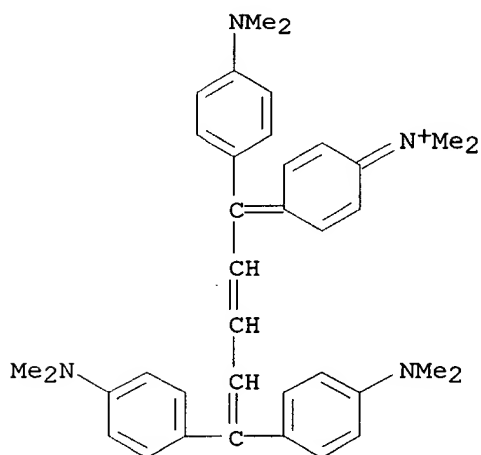
RN 23410-90-4 HCAPLUS

CN Methanaminium, N-methyl-N-[4-[1,5,5-tris[4-(dimethylamino)phenyl]-2,4-pentadienylidene]-2,5-cyclohexadien-1-ylidene]-, salt with 4-methylbenzenesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 47827-22-5

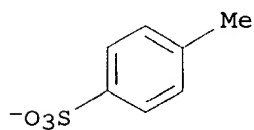
CMF C37 H43 N4



CM 2

CRN 16722-51-3

CMF C7 H7 O3 S

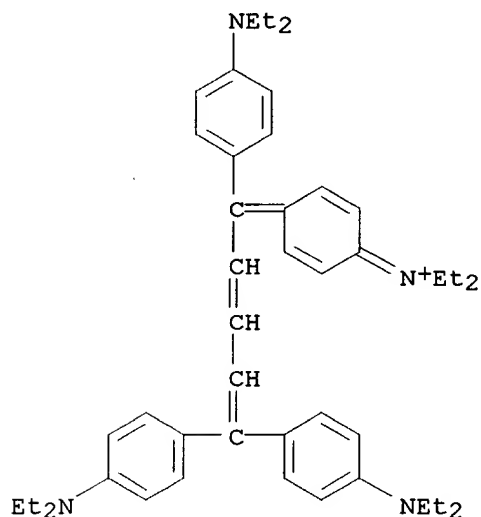


L10 ANSWER 12 OF 54 HCAPLUS COPYRIGHT 2000 ACS
AN 1998:693323 HCAPLUS

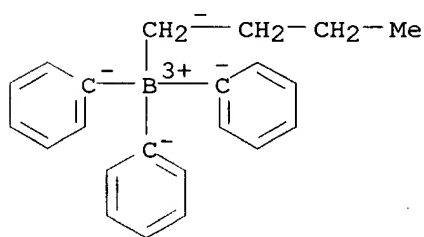
DN, 130:18980
 TI Photopolymerizable composition for manufacturing functional laminated
 glass and manufacture of the glass
 IN Sugita, Shuichi
 PA Showa Denko K. K., Japan
 SO Jpn. Kokai Tokkyo Koho, 12 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C03C027-12
 ICS C08F002-50
 CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other
 Reprographic Processes)
 Section cross-reference(s): 35, 38, 57
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 10287450	A2	19981027	JP 1997-96122	19970414
OS	MARPAT 130:18980				
AB	The compn. contains a visible light- and/or near IR-sensitive photopolymn. initiator, optionally a heat-polymn. initiator, and a polymerizable unsatd. compd. The title glass is manufd. by sandwiching the compn. between glass plates and irradiating for polymn. The method is useful for manufg. a functional glass having color, fire-resistant property, light-modulating property, etc.				
ST	laminate glass photopolymn fire resistance; visible light photopolymn initiator laminate glass; near IR photopolymn initiator laminate glass; light modulator laminate glass photopolymn				
IT	Glass, uses RL: TEM (Technical or engineered material use); USES (Uses) (UV-absorbing; manuf. of functional laminated glass from polymerizable compn.)				
IT	Glass, uses RL: TEM (Technical or engineered material use); USES (Uses) (colored; manuf. of functional laminated glass from polymerizable compn.)				
IT	Laminated materials (fire-resistant; manuf. of functional laminated glass from polymerizable compn.)				
IT	Fire-resistant materials (laminates; manuf. of functional laminated glass from polymerizable compn.)				
IT	Optical modulators (manuf. of functional laminated glass from polymerizable compn.)				
IT	Laminated glass RL: TEM (Technical or engineered material use); USES (Uses) (manuf. of functional laminated glass from polymerizable compn.)				
IT	Photopolymerization catalysts (visible light- and/or near IR-sensitive; manuf. of functional laminated glass from polymerizable compn.)				
IT	120307-06-4, Tetrabutylammonium butyltriphenylborate RL: CAT (Catalyst use); USES (Uses) (initiator; manuf. of functional laminated glass from polymerizable compn.)				
IT	141714-54-7 RL: CAT (Catalyst use); USES (Uses) (near IR-sensitive initiator; manuf. of functional laminated glass from polymerizable compn.)				
IT	75980-60-8, 2,4,6-Trimethylbenzoyl-diphenylphosphine oxide 145052-34-2, Bis(2,6-dimethoxybenzoyl)-2,4,4-trimethylpentylphosphine oxide RL: CAT (Catalyst use); USES (Uses) (photo initiator; manuf. of functional laminated glass from polymerizable compn.)				
IT	166892-69-9 RL: CAT (Catalyst use); USES (Uses) (visible light-sensitive initiator; manuf. of functional laminated glass from polymerizable compn.)				

IT, 141714-54-7
 RL: CAT (Catalyst use); USES (Uses)
 (near IR-sensitive initiator; manuf. of functional laminated glass from
 polymerizable compn.)
 RN 141714-54-7 HCAPLUS
 CN Ethanaminium, N-ethyl-N-[4-[1,5,5-tris[4-(diethylamino)phenyl]-2,4-
 pentadienylydene]-2,5-cyclohexadien-1-ylidene]-, (T-4)-
 butyltriphenylborate(1-) (9CI) (CA INDEX NAME)
 CM 1
 CRN 96233-23-7
 CMF C45 H59 N4

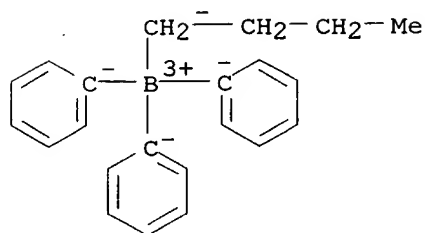


CM 2
 CRN 47252-39-1
 CMF C22 H24 B
 CCI CCS
 CDES 7:T-4



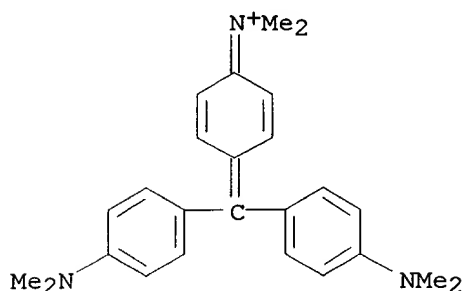
IT 166892-69-9
 RL: CAT (Catalyst use); USES (Uses)
 (visible light-sensitive initiator; manuf. of functional laminated
 glass from polymerizable compn.)
 RN 166892-69-9 HCAPLUS
 CN Methanaminium, N-[4-[bis[4-(dimethylamino)phenyl]methylene]-2,5-
 cyclohexadien-1-ylidene]-N-methyl-, (T-4)-butyltriphenylborate(1-) (9CI)
 (CA INDEX NAME)
 CM 1
 CRN 47252-39-1

CMF C22 H24 B
 CCI CCS
 CDES 7:T-4



CM 2

CRN 7438-46-2
 CMF C25 H30 N3



L10 ANSWER 13 OF 54 HCAPLUS COPYRIGHT 2000 ACS
 AN 1998:419139 HCAPLUS
 DN 129:168021
 TI Acid-stable dye-borate electron transfer photoinitiators
 AU Cunningham, Allan; Kunz, Martin
 CS Additives Division, Ciba Specialty Chemicals, Marly, CH-1723/1, Switz.
 SO RadTech'98 North Am. UV/EB Conf. Proc. (1998), 38-41 Publisher: RadTech
 International North America, Northbrook, Ill.
 CODEN: 66IXAN
 DT Conference
 LA English
 CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other
 Reprographic Processes)
 AB A new acid-stable borate co-initiator suitable for use in imaging
 applications is presented. Exptl. results reported here demonstrate that
 the derived dye-borate photoinitiators are highly reactive over the whole
 visible range of the electromagnetic spectrum and, thus, tunable to a
 variety of light sources.
 ST photoimaging electron transfer radical photoinitiator; borate dye radical
 photoinitiator holog photolithog; photopolymn borate dye photoinitiator
 holog photolithog
 IT Photoimaging materials
 (dye-borate electron transfer polymn. photoinitiators for
 photoimaging applications)
 IT Holographic recording materials
 Photoinduced electron transfer
 Photolithography
 Photopolymerization catalysts
 (dye-borate electron transfer polymn. photoinitiators for
 photoimaging applications in holog. and lithog.)
 IT 61-73-4, Methylene Blue 81-88-9, Rhodamine B 92-32-0, Pyronine GY

477-73-6, Safranin O 548-24-3 **548-62-9**, Crystal violet
 632-68-8, Rose Bengal B **633-03-4** 2907-13-3 **3087-16-9**
 5495-84-1, Quantacure ITX 18472-89-4, Cresyl violet 103430-24-6
 139976-53-7 191726-39-3 191726-45-1, Tetramethylammonium
 hexyltris(m-fluorophenyl)borate 191726-62-2 211228-55-6 211228-74-9
 211228-81-8

RL: CAT (Catalyst use); PEP (Physical, engineering or chemical process);
 PROC (Process); USES (Uses)

(dye-borate electron transfer polymn. **photoinitiators** for
 photoimaging applications in holog. and lithog.)

IT 79-10-7, 2-Propenoic acid, reactions

RL: RCT (Reactant)

(dye-borate electron transfer polymn. **photoinitiators** for
 photoimaging applications in holog. and lithog.)

IT **548-62-9**, Crystal violet **633-03-4** **3087-16-9**

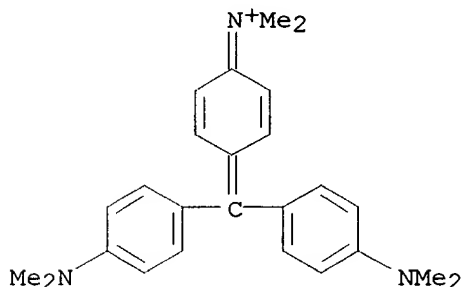
RL: CAT (Catalyst use); PEP (Physical, engineering or chemical process);

PROC (Process); USES (Uses)

(dye-borate electron transfer polymn. **photoinitiators** for
 photoimaging applications in holog. and lithog.)

RN 548-62-9 HCAPLUS

CN Methanaminium, N-[4-[bis[4-(dimethylamino)phenyl]methylene]-2,5-
 cyclohexadien-1-ylidene]-N-methyl-, chloride (9CI) (CA INDEX NAME)



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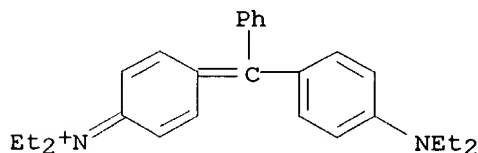
RN 633-03-4 HCAPLUS

CN Ethanaminium, N-[4-[[4-(diethylamino)phenyl]phenylmethylene]-2,5-
 cyclohexadien-1-ylidene]-N-ethyl-, sulfate (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 18198-35-1

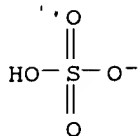
CMF C27 H33 N2



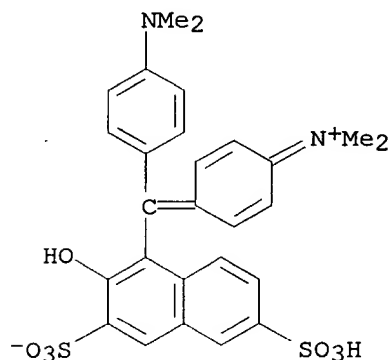
CM 2

CRN 14996-02-2

CMF H O4 S



RN 3087-16-9 HCAPLUS
 CN Methanaminium, N-[4-[[4-(dimethylamino)phenyl](2-hydroxy-3,6-disulfo-1-naphthalenyl)methylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, inner salt, monosodium salt (9CI) (CA INDEX NAME)



● Na

L10 ANSWER 14 OF 54 HCAPLUS COPYRIGHT 2000 ACS
 AN 1998:160936 HCAPLUS
 DN 128:231317
 TI Photocurable prepreg compositions and method for manufacture
 IN Otani, Kazuo; Yamamoto, Tomio; Chishiro, Hidetake; Sugita, Shuichi;
 Kamata, Hironori; Watanabe, Takeo
 PA Showa Denko K. K., Japan; Showa Highpolymer Co., Ltd.
 SO Jpn. Kokai Tokkyo Koho, 17 pp.
 CODEN: JKXXAF

DT Patent
 LA Japanese
 IC ICM C08J005-10
 ICS C08F002-50; C08F283-01; C08F290-06; C08J005-24
 CC 38-3 (Plastics Fabrication and Uses)

FAN.CNT 1

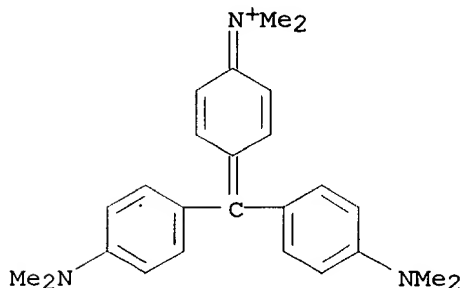
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10067865	A2	19980310	JP 1997-128929	19970519
PRAI	JP 1996-149986		19960521		
OS	MARPAT 128:231317				

AB The comps. comprise unsatd. polyesters or/and vinyl ester resins, .gtoreq.2 photoinitiators of different sensitivities to different wave lengths, inorg. or org. reinforcement fibers and fillers where the comps. are partially polymd. to B-stage without using up the radical-polymn. unsatd. sites and photoinitiators for improving the storage stability and workability of B-stage resins while retaining the good curability by heat after molding. Impregnating a glass fiber mat in a compn. of Ripoxy R-802 100, 1,1,5,5-tetrakis(p-diethylaminophenyl)-2,4-pentadienyl triphenylbutylborate 0.03, tetrabutylammonium triphenylbutylborate 0.15, 2,2'-bis(o-chlorophenyl)-4,4',5,5'-tetraphenyl-1,1'-bisimidazole 0.3 and 2-mercaptobenzothiazole 1.0 parts, covering on top with a Mylar film, and irradiating with a spotlight having wave length between 600-1200 nm for 5 min gave a B-stage prepreg compn. with good storage stability and curability after 2 mo.

ST. photocurable prepreg B stage thermoset resin; glass fiber reinforcement
 photocurable prepreg; photoinitiator combination B stage prepreg
 IT Photopolymerization catalysts
 (for photocurable prepreg compns. with good storage stability and
 curability)
 IT Unsaturated polyesters
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or
 engineered material use); USES (Uses)
 (photocurable prepreg compns. with good storage stability and
 curability and method for manuf.)
 IT Glass fiber-reinforced plastics
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or
 engineered material use); USES (Uses)
 (prepregs; photocurable prepreg compns. with good storage stability and
 curability and method for manuf.)
 IT 39414-49-8, Rigolac 1557 54847-75-5, Rigolac 2141 62395-94-2, Ripoxy
 R-802 171040-23-6, Ripoxy H-630
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or
 engineered material use); USES (Uses)
 (photocurable prepreg compns. with good storage stability and
 curability and method for manuf.)
 IT 6359-45-1 6441-84-5 41687-02-9 71143-08-3
 201029-22-3 202063-07-8
 RL: CAT (Catalyst use); USES (Uses)
 (photoinitiator; for photocurable prepreg compns. with good
 storage stability and curability)
 IT 149-30-4, 2-Mercaptobenzothiazole 1707-68-2, 2,2'-Bis(o-chlorophenyl)-
 4,4',5,5'-tetraphenyl-1,1'-biimidazole 120307-06-4, Tetrabutylammonium
 butyltriphenylborate 141714-54-7 174285-64-4, Irgacure 1700
 184649-96-5, Irgacure 1800
 RL: CAT (Catalyst use); USES (Uses)
 (photoinitiator; photocurable prepreg compns. with good
 storage stability and curability and method for manuf.)
 IT 41687-02-9 71143-08-3 201029-22-3
 202063-07-8
 RL: CAT (Catalyst use); USES (Uses)
 (photoinitiator; for photocurable prepreg compns. with good
 storage stability and curability)
 RN 41687-02-9 HCAPLUS
 CN Methanaminium, N-[4-[bis[4-(dimethylamino)phenyl]methylene]-2,5-
 cyclohexadien-1-ylidene]-N-methyl-, tetraphenylborate(1-) (9CI) (CA INDEX
 NAME)

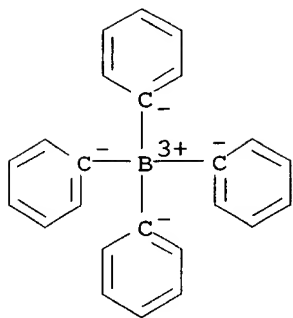
CM 1

CRN 7438-46-2
 CMF C25 H30 N3

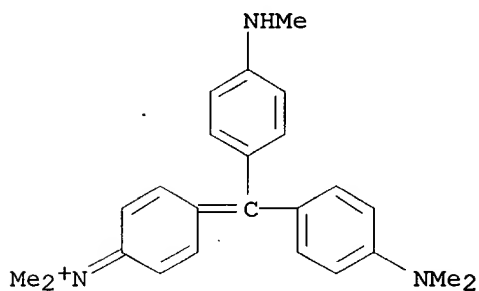


CM 2

CRN 4358-26-3
 CMF C24 H20 B
 CCI CCS



RN 71143-08-3 HCAPLUS
 CN Methanaminium, N-[4-[[4-(dimethylamino)phenyl][4-(methylamino)phenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, chloride (9CI) (CA INDEX NAME)

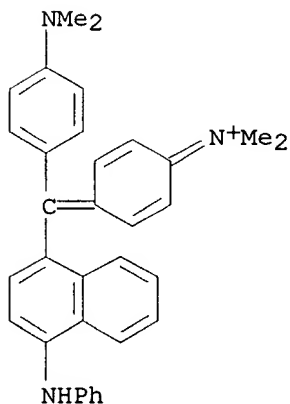


● Cl⁻

RN 201029-22-3 HCAPLUS
 CN Methanaminium, N-[4-[[4-(dimethylamino)phenyl][4-(phenylamino)-1-naphthalenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, tetraphenylborate(1-) (9CI) (CA INDEX NAME)

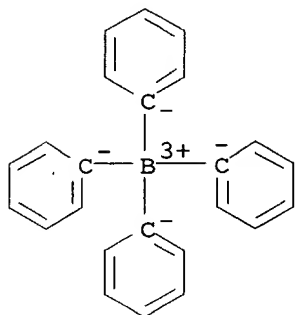
CM 1

CRN 48232-56-0
 CMF C33 H32 N3



CM 2

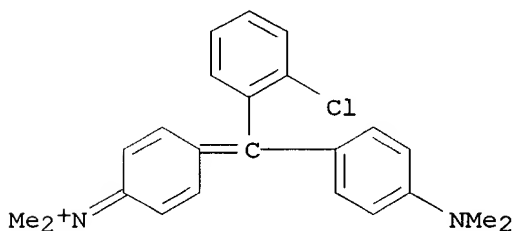
CRN 4358-26-3
CMF C24 H20 B
CCI CCS



RN 202063-07-8 HCAPLUS
CN Methanaminium, N-[4-[(2-chlorophenyl)[4-(dimethylamino)phenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, tetraphenylborate(1-) (9CI) (CA INDEX NAME)

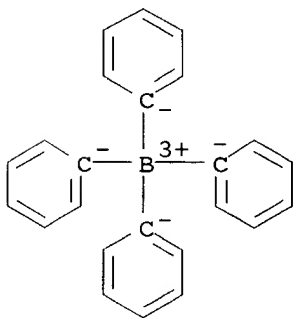
CM 1

CRN 25501-72-8
CMF C23 H24 Cl N2



CM 2

CRN 4358-26-3
CMF C24 H20 B
CCI CCS



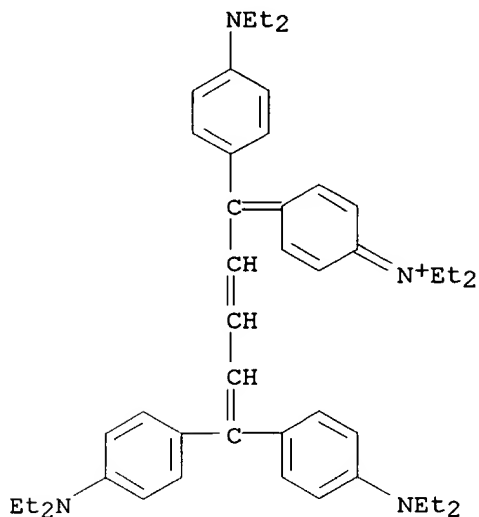
IT 141714-54-7
RL: CAT (Catalyst use); USES (Uses)
(**photoinitiator**; photocurable prepreg compns. with good storage stability and curability and method for manuf.)
RN 141714-54-7 HCAPLUS
CN Ethanaminium, N-ethyl-N-[4-[1,5,5-tris[4-(diethylamino)phenyl]-2,4-

pentadienylidene]-2,5-cyclohexadien-1-ylidene]-, (T-4)-
butyltriphenylborate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 96233-23-7

CMF C45 H59 N4



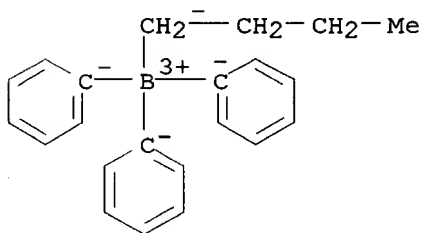
CM 2

CRN 47252-39-1

CMF C22 H24 B

CCI CCS

CDES 7:T-4



L10 ANSWER 15 OF 54 HCAPLUS COPYRIGHT 2000 ACS

AN 1996:693806 HCAPLUS

DN 125:301900

TI Crosslinking of photocurable compositions

IN Sugita, Shuichi; Kamata, Hirotoshi

PA Showa Denko Kk, Japan

SO Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08F002-50

ICS B05D003-00; B05D007-24; C08F002-44; C08F004-00; C09D004-00;

C09D005-00

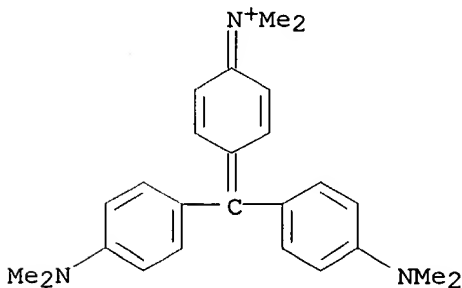
CC 35-8 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 42

FAN.CNT 1

PATENT NO. KIND DATE APPLICATION NO. DATE

PI JP 08231617 A2 19960910 JP 1995-32666 19950221
 OS MARPAT 125:301900
 AB Ligs. incompatible with photocurable compns. comprising unsatd. compds. and photoinitiators are placed between the compns. and air layer in light irradsn. onto the compns. The process is applicable in coating, potting, sealing, etc. Thus, a compn. of pentaerythritol triacrylate 45, UA 306H (urethane acrylate oligomer) 50, and 2,2-diethoxyacetophenone 0.1 g filled in a glass container was covered with H2O and irradiated with UV for 3 min to show complete curing.
 ST anaerobic crosslinking photocurable acrylate
 IT Coating process
 (anaerobic crosslinking of photocurable compns.)
 IT Epoxy resins, preparation
 Urethane polymers, preparation
 RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process)
 (acrylic, anaerobic crosslinking of photocurable compns.)
 IT Crosslinking
 (photochem., anaerobic crosslinking of photocurable compns.)
 IT 95971-16-7P 183146-51-2P
 RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process)
 (anaerobic crosslinking of photocurable compns.)
 IT 110-54-3, Hexane, uses 7732-18-5, Water, uses
 RL: NUU (Nonbiological use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
 (anaerobic crosslinking of photocurable compns.)
 IT 6175-45-7, 2,2-Diethoxyacetophenone 41687-02-9
 96233-24-8 120307-06-4, Tetrabutylammonium butyltriphenylborate
 141714-54-7 159293-75-1, Ethylpyridinium butyltriphenylborate
 RL: CAT (Catalyst use); USES (Uses)
 (photoinitiator; anaerobic crosslinking of photocurable compns.)
 IT 7429-90-5, Aluminum, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (pigment, 561PS; anaerobic crosslinking of photocurable compns.)
 IT 13463-67-7, CR 90, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (pigment; anaerobic crosslinking of photocurable compns.)
 IT 41687-02-9 96233-24-8 141714-54-7
 RL: CAT (Catalyst use); USES (Uses)
 (photoinitiator; anaerobic crosslinking of photocurable compns.)
 RN 41687-02-9 HCAPLUS
 CN Methanaminium, N-[4-[bis[4-(dimethylamino)phenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, tetraphenylborate(1-) (9CI) (CA INDEX NAME)
 CM 1
 CRN 7438-46-2
 CMF C25 H30 N3

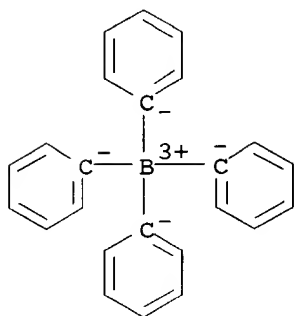


CM 2

CRN 4358-26-3

CMF C24 H20 B

CCI CCS



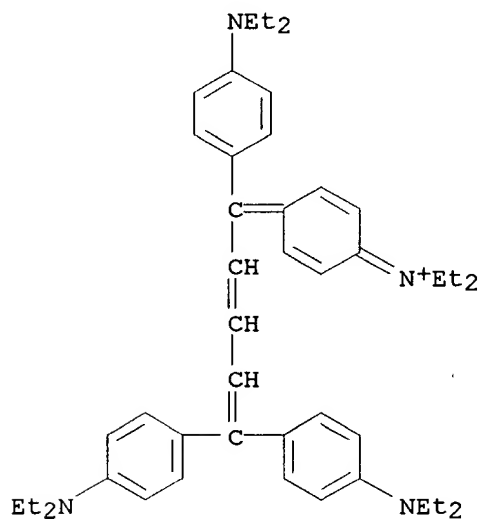
RN 96233-24-8 HCAPLUS

CN Ethanaminium, N-ethyl-N-[4-[1,5,5-tris[4-(diethylamino)phenyl]-2,4-pentadienylidene]-2,5-cyclohexadien-1-ylidene]-, salt with 4-methylbenzenesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 96233-23-7

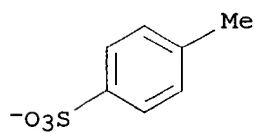
CMF C45 H59 N4



CM 2

CRN 16722-51-3

CMF C7 H7 O3 S



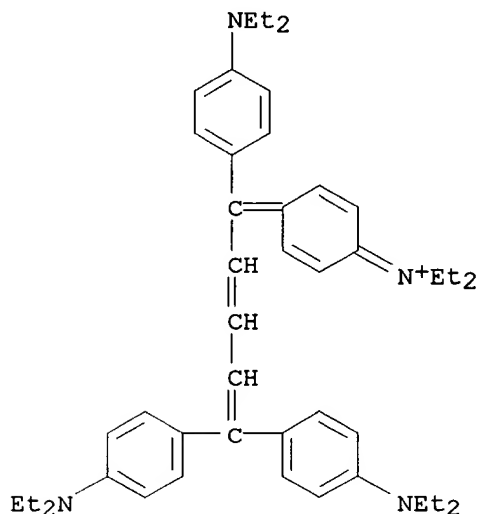
RN 141714-54-7 HCAPLUS

.. CN, Ethanaminium, N-ethyl-N-[4-[1,5,5-tris[4-(diethylamino)phenyl]-2,4-pentadienylidene]-2,5-cyclohexadien-1-ylidene]-, (T-4)-butyltriphenylborate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 96233-23-7

CMF C45 H59 N4



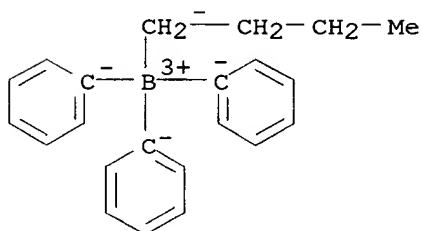
CM 2

CRN 47252-39-1

CMF C22 H24 B

CCI CCS

CDES 7:T-4



L10 ANSWER 16 OF 54 HCAPLUS COPYRIGHT 2000 ACS

AN 1995:367527 HCAPLUS

DN 122:147321

TI Photosensitive resin composition

IN Tanaka, Yoji; Kimura, Norio; Tanno, Kyohito; Kakumaru, Hajime; Kubota, Naohiro; Tominaga, Nobuhide; Ishizaki, Koji

PA Asahi Denka Kogyo Kk, Japan; Hitachi Chemical Co Ltd

SO Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DT Patent

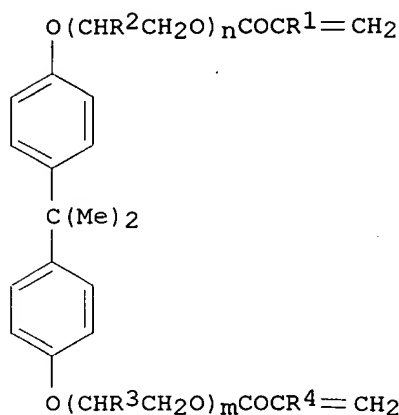
LA Japanese

IC ICM G03F007-038

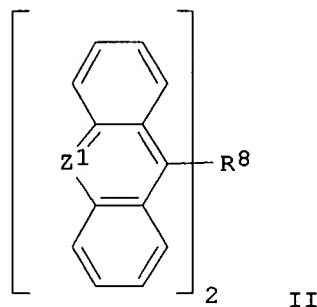
ICS G03F007-004; G03F007-027; G03F007-031; G03F007-033; H01L021-027; H05K003-00

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

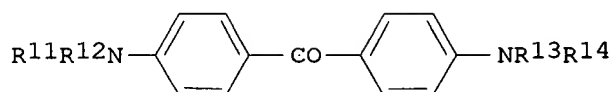
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06236031	A2	19940823	JP 1993-23137	19930212
OS	MARPAT 122:147321				
GI					



I



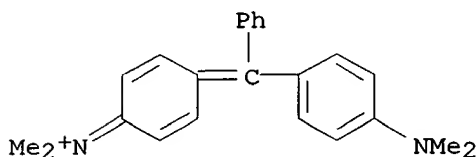
II



III

- AB A photosensitive resin compn. which is rapidly developable in a weak alkali soln. to provide etching-resistant images and useful in printed circuit manuf. comprises (A) a vinyl copolymer having a Tg of 50-120.degree. and a wt.-av. mol. wt. of 30,000-150,000 and obtained by copolyng. methacrylic acid, Me methacrylate, and Et acrylate, (B) an ethylenically unsatd. compd. represented by the formula I (R1-4 = H or CH3; m + n = 8-12), (C) an ethylenically unsatd. compd. represented by the formula CH2=CR6CO2R5OCOZCO2CH2CHOHR7 (Z = a dicarboxylic acid group; R5 = C1-3 alkyl; R6 = H or methyl; R7 = H, Me, Et, or CH2X where X = Cl or Br), (D) a photoinitiator having the formula II (R8 = ~~C6-12-alkylene~~), (E) a photoinitiator having the formula AlCOC(OR9)(OR10)A2 (A1, A2 = Ph which may be substituted with C1-3 alkyl or alkoxy; R9, R10 = C1-9 alkyl), and (F) a photoinitiator having the formula III (R11-14 = C1-3 alkyl).
- ST photosensitive resin compn printed circuit; photoresist photopolymerizable arom photoinitiator
- IT Photoimaging compositions and processes
(photopolymerizable, contg. bis[(methacryloxypolyethylene)phenyl]propane derivs. and multiple arom. **photoinitiators**)
- IT Resists
(photo-, photopolymerizable, contg. bis[(methacryloxypolyethylene)phenyl]propane derivs. and multiple arom. **photoinitiators**)
- IT Electric circuits
(printed, photopolymerizable compns. contg. bis[(methacryloxypolyethylene)phenyl]propane derivs. and multiple arom. **photoinitiators** for manuf. of)
- IT 90-93-7 123-31-9, Hydroquinone, uses 558-13-4, Tetrabromomethane 569-64-2, Malachite green 603-48-5, Leuco crystal violet 24650-42-8 25133-97-5, Ethyl acrylate-methacrylic acid-methyl methacrylate copolymer 39332-53-1, Acrylic acid-methacrylic acid-methyl methacrylate copolymer 41637-38-1, 2,2-Bis[4-(methacryloxypolyethoxy)phenyl]propane 61894-33-5 141946-28-3, 1,7-Bis(9-acridinyl)heptane
- RL: TEM (Technical or engineered material use); USES (Uses)
(photopolymerizable resin compns. contg., for printed circuit manuf.)
- IT 569-64-2, Malachite green

RL: TEM (Technical or engineered material use); USES (Uses)
 (photopolymerizable resin compns. contg., for printed circuit manuf.)
 RN 569-64-2 HCAPLUS
 CN Methanaminium, N-[4-[[4-(dimethylamino)phenyl]phenylmethylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

L10 ANSWER 17 OF 54 HCAPLUS COPYRIGHT 2000 ACS

AN 1995:302808 HCAPLUS

DN 122:83273

TI Near IR-curable unsaturated ethylenic compound polymeric foamable compositions

IN Katsuno, Nobuhiro

PA Three Bond Co Ltd, Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08J009-14

ICS B05D003-06; C09K003-10

ICA C09D004-00

CC 38-3 (Plastics Fabrication and Uses)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06192459	A2	19940712	JP 1992-357728	19921225
AB	The compns. comprise unsatd. ethylenic compds., hollow fillers and/or expandable microcapsules, and near IR photoinitiators of cyanine complex. Irradiating a mixt. of Viscoat 3700 100, 2-hydroxyethyl methacrylate 10, glycidyl methacrylate 10, tetramethylammonium Bu triphenylborate 1, Q-CEL 200 (silica balloon) 100, 2,6-diisopropyl-N,N-dimethylaniline 1, and 1-ethyl-2-[7-(1-ethyl-2(1H)-quinolinylidene)-1,3,5-heptatrienyl]-, (T-4)-butyltriphenylborate(1-) quinolinium 1 part at 500 W UV lamp gave a 2.43-fold foam showing elongation 100%, d. 0.41, and JIS A hardness 80.				
ST	acrylate IR curable compn; silica balloon acrylate IR curable foam; photo polymn acrylate copolymer foam				
IT	Shirasu RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses) (Winlite SC 50, hollow fillers; near IR-curable unsatd. ethylenic compds. polymeric foamable compns.)				
IT	Plastics, cellular RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (near IR-curable unsatd. ethylenic compd. polymeric foamable compns.)				
IT	Catalysts and Catalysis (photo; near IR-curable unsatd. ethylenic compd. polymeric foamable compns.)				
IT	Microbial capsule (microcapsule, near IR-curable unsatd. ethylenic compd. polymeric foamable compns.)				
IT	Glass, oxide RL: MOA (Modifier or additive use); TEM (Technical or engineered material				

use); USES (Uses)
 (microspheres, borosilicate, hollow fillers; near IR-curable unsatd. ethylenic compd. polymeric foamable compns.)

IT Infrared **radiation**
 (near-, near IR-curable unsatd. ethylenic compd. polymeric foamable compns.)

IT Polymerization
 (photochem., near IR-curable unsatd. ethylenic compd. polymeric foamable compns.)

IT 9010-76-8, Expancel 551DE 61132-18-1, Fillite 84992-23-4, Expancel
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
 (hollow fillers; near IR-curable unsatd. ethylenic compd. polymeric foamable compns.)

IT 141714-60-5 **141714-61-6** 141714-62-7
 RL: CAT (Catalyst use); USES (Uses)
 (near IR-curable unsatd. ethylenic compd. polymeric foamable compns.)

IT 106-91-2DP, Glycidyl methacrylate, polymers 868-77-9DP, 2-Hydroxyethyl methacrylate, polymers 25322-69-4DP, Polypropylene glycol, reaction products with acrylates, polyurethane-modified 160311-21-7P 160311-22-8P 160311-23-9P
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (near IR-curable unsatd. ethylenic compd. polymeric foamable compns.)

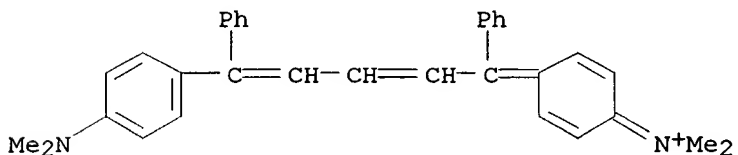
IT **141714-61-6**
 RL: CAT (Catalyst use); USES (Uses)
 (near IR-curable unsatd. ethylenic compd. polymeric foamable compns.)

RN 141714-61-6 HCAPLUS

CN Methanaminium, N-[4-[5-[4-(dimethylamino)phenyl]-1,5-diphenyl-2,4-pentadienyliidene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, (T-4)-butyltriphenylborate(1-) (9CI) (CA INDEX NAME)

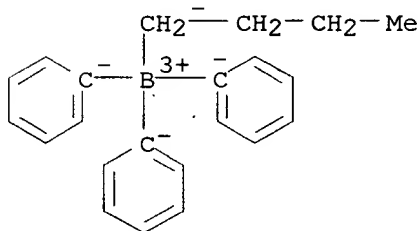
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CRN 47764-98-7
 CMF C33 H33 N2



CM 2

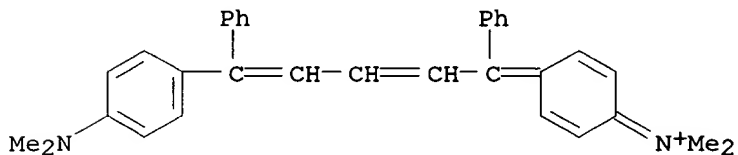
CRN 47252-39-1
 CMF C22 H24 B
 CCI CCS
 CDES 7:T-4



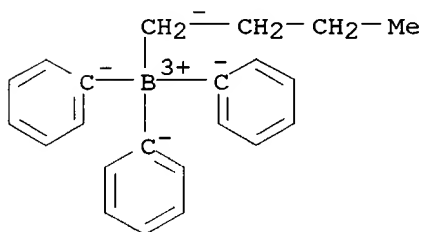
L10 ANSWER 18 OF 54 HCAPLUS COPYRIGHT 2000 ACS
 AN 1995:302807 HCAPLUS
 DN 122:57787
 TI Near IR-curable unsaturated ethylenic compound polymeric compositions and the foamed gasket composites prepared therefrom
 IN Katsuno, Nobuhiro
 PA Three Bond Co Ltd, Japan
 SO Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C08J009-30
 ICS B05D001-02; B05D003-06; C08J007-04; C09K003-10
 ICA C09D004-00
 CC 38-3 (Plastics Fabrication and Uses)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06192468	A2	19940712	JP 1992-357729	19921225
AB	The compns. comprise unsatd. ethylenic compds. and near IR photoinitiators of cyanine complex. Irradiating a mixt. of bis(methacryloyloxy)dimethylsilane 100, glycidyl methacrylate 25, 2,6-diisopropyl-N,N-dimethylaniline 1, and 1-ethyl-2-[7-(1-ethyl-2(1H)-quinolinylidene)-1,3,5-heptatrienyl]-, (T-4)-butyltriphenylborate(1-) quinolinium 1 part at 500 W UV lamp gave a 2.43-fold foamed gasket showing elongation 100%, d. 0.41, and JIS A hardness 10.				
ST	methacrylate IR curable compn gasket; cyanine complex curing acryloxylsilane copolymer; foam gasket photo polymn acrylate copolymer				
IT	Infrared radiation				
	(near; near IR-curable unsatd. ethylenic compd. polymeric compns. and the foamed gasket composites prepd. therefrom)				
IT	Catalysts and Catalysis				
	(photo; near IR-curable unsatd. ethylenic compd. polymeric compns. and the foamed gasket composites prepd. therefrom)				
IT	Rubber, butadiene, uses				
	RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)				
	(acrylate-terminated, polymers, with glycidyl methacrylate; near IR-curable unsatd. ethylenic compd. polymeric compns. and the foamed gasket composites prepd. therefrom)				
IT	Polymerization				
	(photochem., near IR-curable unsatd. ethylenic compd. polymeric compns. and the foamed gasket composites prepd. therefrom)				
IT	141714-60-5		141714-62-7		
	RL: CAT (Catalyst use); USES (Uses)				
	(near IR photoinitiator ; near IR-curable unsatd. ethylenic compd. polymeric compns. and the foamed gasket composites prepd. therefrom)				
IT	141714-61-6				
	RL: CAT (Catalyst use); USES (Uses)				
	(near IR-curable unsatd. ethylenic compd. polymeric compns. and the foamed gasket composites prepd. therefrom)				
IT	106-91-2DP, polymers		25322-69-4DP, Polypropylene glycol, reaction products with acrylates, polyurethane-modified		160311-20-6P
	RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)				
	(near IR-curable unsatd. ethylenic compd. polymeric compns. and the foamed gasket composites prepd. therefrom)				
IT	9003-17-2P				
	RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)				
	(rubber, acrylate-terminated, polymers, with glycidyl methacrylate; near IR-curable unsatd. ethylenic compd. polymeric compns. and the foamed gasket composites prepd. therefrom)				
IT	141714-61-6				
	RL: CAT (Catalyst use); USES (Uses)				
	(near IR-curable unsatd. ethylenic compd. polymeric compns. and the				

foamed gasket composites prepd. therefrom)
 RN 141714-61-6 HCAPLUS
 CN Methanaminium, N-[4-[5-[4-(dimethylamino)phenyl]-1,5-diphenyl-2,4-pentadienylidene]-2,5-cyclohexadien-1-ylidene]-N-methyl-,
 (T-4)-butyltriphenylborate(1-) (9CI) (CA INDEX NAME)
 CM 1
 CRN 47764-98-7
 CMF C33 H33 N2



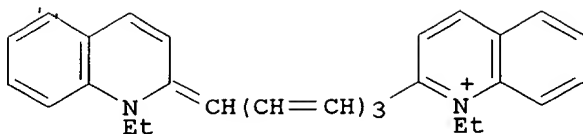
CM 2
 CRN 47252-39-1
 CMF C22 H24 B
 CCI CCS
 CDES 7:T-4



L10 ANSWER 19 OF 54 HCAPLUS COPYRIGHT 2000 ACS
 AN 1995:128250 HCAPLUS
 DN 122:135482
 TI Photocurable adhesive compositions
 IN Hanada, Minami
 PA Three Bond Co Ltd, Japan
 SO Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C09J004-00
 CC 38-3 (Plastics Fabrication and Uses)
 Section cross-reference(s): 39

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06207146	A2	19940726	JP 1993-33899	19930111
GI					



Ph₃B⁻ @ Bu

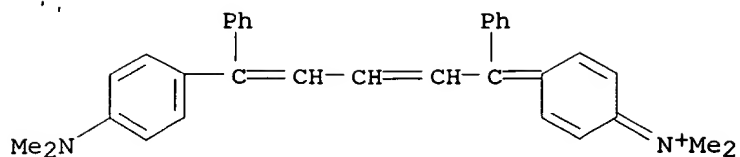
I

- AB The title compns., useful for adhesion of glass, plastics, metals, etc., comprise addn. polymerizable ethylenically unsatd. compds. 100, elastomers 1-60, and photoinitiators which initiate polymn. by 390-900-nm light 1-20 parts. Thus, NK Oligo U 4H 90, hydroxyethyl acrylate 10, cyanine dye complex I 1, acrylic rubber 10, oxidant 1, and sensitizer 1 part were mixed and irradiated by a halogen lamp to give a cured product with tensile strength 1.9 MPa and peel strength 4.0 kN/m.
- ST photocurable adhesive ethylenically unsatd compd; hydroxyethyl acrylate photocurable adhesive; photoinitiator adhesive ethylenically unsatd compd; acrylic elastomer blend adhesive photocurable
- IT Adhesives
(photocurable adhesives contg. ethylenically unsatd. compd., elastomers, and **photoinitiators**)
- IT Rubber, nitrile, uses
RL: MOA (Modifier or additive use); USES (Uses)
(photocurable adhesives contg. ethylenically unsatd. compd., elastomers, and **photoinitiators**)
- IT Rubber, synthetic
RL: MOA (Modifier or additive use); USES (Uses)
(acrylic, photocurable adhesives contg. ethylenically unsatd. compd., elastomers, and **photoinitiators**)
- IT Rubber, synthetic
RL: MOA (Modifier or additive use); USES (Uses)
(fluoro, photocurable adhesives contg. ethylenically unsatd. compd., elastomers, and **photoinitiators**)
- IT Polymerization catalysts
(photochem., photocurable adhesives contg. ethylenically unsatd. compd., elastomers, and **photoinitiators**)
- IT 161030-61-1P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(photocurable adhesives contg. ethylenically unsatd. compds., elastomers, and **photoinitiators**)
- IT 141714-60-5 **141714-61-6** 141714-62-7
RL: CAT (Catalyst use); USES (Uses)
(**photoinitiators**; photocurable adhesives contg. ethylenically unsatd. compd., elastomers, and **photoinitiators**)
- IT 9003-18-3
RL: MOA (Modifier or additive use); USES (Uses)
(rubber, photocurable adhesives contg. ethylenically unsatd. compd., elastomers, and **photoinitiators**)
- IT **141714-61-6**
RL: CAT (Catalyst use); USES (Uses)
(**photoinitiators**; photocurable adhesives contg. ethylenically unsatd. compd., elastomers, and **photoinitiators**)
- RN 141714-61-6 HCAPLUS
- CN Methanaminium, N-[4-[5-[4-(dimethylamino)phenyl]-1,5-diphenyl-2,4-pentadienyldiene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, (T-4)-butyltriphenylborate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 47764-98-7

CMF C33 H33 N2



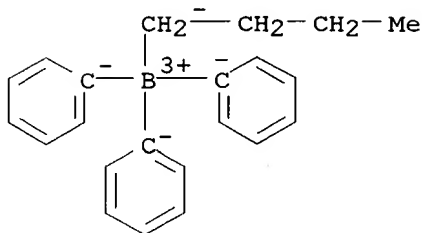
CM 2

CRN 47252-39-1

CMF C22 H24 B

CCI CCS

CDES 7:T-4



L10 ANSWER 20 OF 54 HCAPLUS COPYRIGHT 2000 ACS

AN 1995:67794 HCAPLUS

DN 122:118702

TI Characterization of photochemical cured acrylates with calorimetric methods

AU Strehmel, Bernd; Anwand, Dirk; Wetzel, Hendrik

CS Department of Chemical Engineering, Stanford University, Stanford, CA, 94305-5025, USA

SO Proc. SPIE-Int. Soc. Opt. Eng. (1994), 2195 (Advances in Resist Technology and Processing XI), 801-12

CODEN: PSISDG; ISSN: 0277-786X

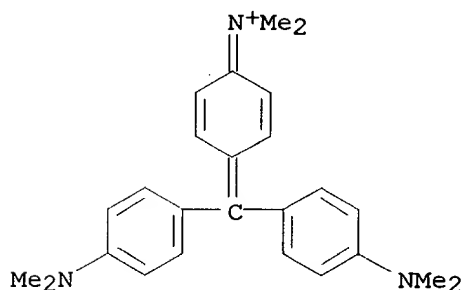
DT Journal

LA English

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

AB Radical polymn. kinetics of different kinds of diacrylates was investigated in linear polymers (binders) by using an isoperibolic calorimeter. For all expts. benzoin compds. were added as photoinitiator. The ester between acrylic acid and bisphenol-A-diglycidylether (DDGDA) and hexamethylenediacrylate were used as monomers. Both compds. have a high limiting conversion and a large polymn. rate in the binders investigated. Addnl., three kinds of termination reaction were obsd.: first order, second order, and primary radical termination. The last reaction was mainly found in the case of using the hexamethylenediacrylate monomer. The materials were investigated by DSC to det. the phase behavior. Both monomers form one phase with the binder (polymethylmethacrylate, PMMA). In contrast, a phase sepn. was obsd. between the crosslinked hexamethylenediacrylate and PMMA. Formations of semi-interpenetrating networks were found in the case of crosslinked DDGDA and PMMA. The glass transition temps. were detd. at different polymn. degrees also. The obtained results indicate that most of the network formation occurred in the glassy state. Fluorescence probe technique was applied to study changes in the mobility during network formation. The fluorescence probe crystal violet (CV) was used because this compd. shows a strong free vol.-dependent fluorescence. It was found that in the glassy state, where most of networks were formed, a large variation of the mol. mobility was obsd. during irradiation of the photopolymers. This result was in agreement

with the observations during DSC expts.
 ST calorimeter radical polymn kinetics diacrylate resist
 IT Fluorescence
 Glass temperature and transition
 Photolysis
 Resists
 (calorimetric characterization of radical polymn. kinetics of
 diacrylates)
 IT Crosslinking
 (photochem., calorimetric characterization of radical polymn. kinetics
 of diacrylates)
 IT 548-62-9, Crystal violet
 RL: NUU (Nonbiological use, unclassified); PRP (Properties); USES (Uses)
 (fluorescence probe; calorimetric characterization of radical polymn.
 kinetics of diacrylates)
 IT 4687-94-9 13048-33-4, Hexamethylenediacrylate
 RL: RCT (Reactant)
 (monomer; calorimetric characterization of radical polymn. kinetics of
 diacrylates)
 IT 6652-28-4, .alpha.-Isopropoxydeoxybenzoin 24650-42-8,
 .alpha.,.alpha.-Dimethoxydeoxybenzoin
 RL: RCT (Reactant)
 (photoinitiator; calorimetric characterization of radical
 polymn. kinetics of diacrylates)
 IT 9003-39-8, Poly(vinylpyrrolidone) 9011-14-7, PMMA 118168-67-5,
 .alpha.-Methylstyrene-monobutyl maleate copolymer
 RL: NUU (Nonbiological use, unclassified); USES (Uses)
 (polymeric binder; calorimetric characterization of radical polymn.
 kinetics of diacrylates)
 IT 548-62-9, Crystal violet
 RL: NUU (Nonbiological use, unclassified); PRP (Properties); USES (Uses)
 (fluorescence probe; calorimetric characterization of radical polymn.
 kinetics of diacrylates)
 RN 548-62-9 HCAPLUS
 CN Methanaminium, N-[4-[bis[4-(dimethylamino)phenyl]methylene]-2,5-
 cyclohexadien-1-ylidene]-N-methyl-, chloride (9CI) (CA INDEX NAME)

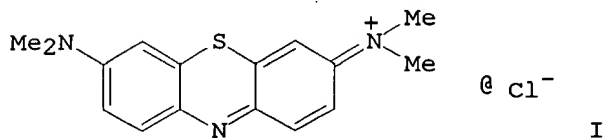


● Cl⁻

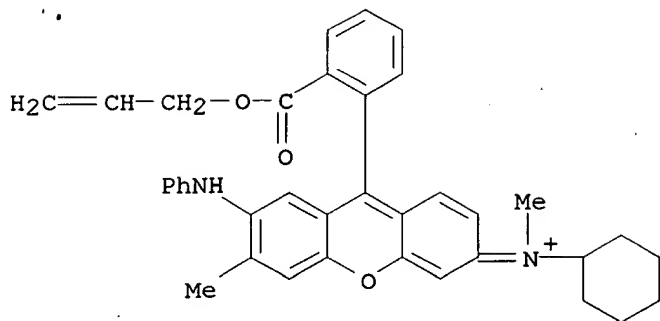
L10 ANSWER 21 OF 54 HCAPLUS COPYRIGHT 2000 ACS
 AN 1994:55280 HCAPLUS
 DN 120:55280
 TI Visible light-sensitive photoinitiators
 IN Murofushi, Katsumi; Hosoda, Kiichi
 PA Showa Denko Kk, Japan
 SO Jpn. Kokai Tokkyo Koho, 24 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C08F002-50

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 05059110	A2	19930309	JP 1991-253187	19910903
GI					



- AB The title initiators having high sensitivities comprise R1R2R3R4B-.cntdot.N+R5R6R7R8 (R1-4 = alkyl, aryl, alkaryl, allyl, aralkyl, alkenyl, alkynyl, silyl, alicyclic, or their substituted derivs.; R5-8 = H, alkyl, aryl, alkaryl, allyl, aralkyl, alkenyl, alkynyl, alicyclic, or their substituted derivs.) and D+.cntdot.A- (D+ = cationic dyes; A- = halo ion, ClO4-, PF6-, BF4-, SbF6-, OH-, sulfonic acid ion). Thus, a mixt. contg. 10 parts trimethylolpropane trimethacrylate, 0.1% I and 0.3% tetrabutylammonium butyltriphenylborate was irradiated by visible light for 1 s to give a polymer.
- ST polymn catalyst photochem visible light; acrylate dye photoinitiator; cationic dye borate photoinitiator; butylammonium butyltriphenylborate photoinitiator
- IT Dyes
(visible light-sensitive, **photoinitiators** as, with high sensitivity)
- IT Dyes
(cationic, visible light-sensitive, **photoinitiators** as, with high sensitivity)
- IT Polymerization catalysts
(photochem., visible light-sensitive dyes and ammonium-borate complexes as, with high sensitivity)
- IT 514-73-8 2390-63-8 3317-67-7 14806-50-9 15187-16-3 34442-71-2
38215-36-0 41044-12-6 43134-09-4 55804-66-5 87220-60-8
152052-60-3 152052-61-4 152052-62-5 152071-32-4
152071-33-5
RL: USES (Uses)
(**photoinitiators** contg. ammonium-borate complexes and, visible light-sensitive)
- IT 23231-91-6, Tetrabutylammonium tetrabutylborate 117522-01-7
120307-06-4, Tetrabutylammonium butyltriphenylborate 141714-72-9
152159-86-9
RL: USES (Uses)
(**photoinitiators** contg. dyes and, visible light-sensitive)
- IT 26426-04-0P, Trimethylolpropane trimethacrylate homopolymer 83332-21-2P,
Diethylene glycol dimethacrylate-trimethylolpropane trimethacrylate
copolymer 139989-85-8P 152070-37-6P
RL: PREP (Preparation)
(prepn. of, by photochem., visible light-sensitive **photoinitiators** for)
- IT **152052-60-3**
RL: USES (Uses)
(**photoinitiators** contg. ammonium-borate complexes and, visible light-sensitive)
- RN 152052-60-3 HCAPLUS
- CN Cyclohexanaminium, N-methyl-N-[6-methyl-7-(phenylamino)-9-[2-[(2-propenyloxy)carbonyl]phenyl]-3H-xanthen-3-ylidene]-, bromide (9CI) (CA INDEX NAME)

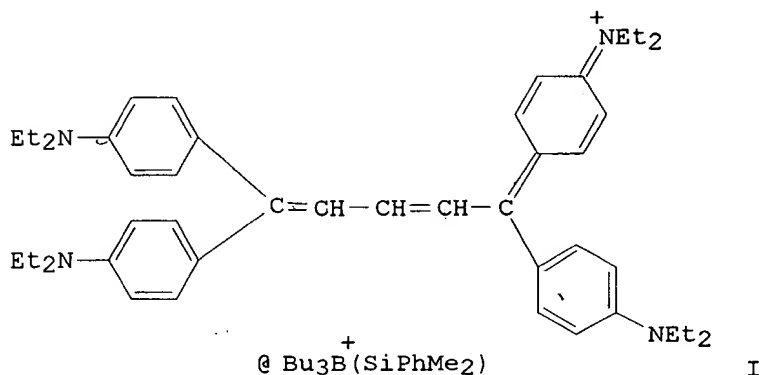


● Br⁻

L10 ANSWER 22 OF 54 HCAPLUS COPYRIGHT 2000 ACS
 AN 1993:213733 HCAPLUS
 DN 118:213733
 TI Near-infrared photoinitiators
 IN Kondo, Kunio; Murofushi, Katsumi; Gan, Gyokuai; Hosoda, Kiichi
 PA Showa Denko K. K., Japan
 SO Jpn. Kokai Tokkyo Koho, 11 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C08F002-46
 ICS C08F020-06; C08F020-10
 CC 35-3 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 67

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04261406	A2	19920917	JP 1991-75999	19910215
	JP 2956246	B2	19991004		
OS	MARPAT 118:213733				
GI					



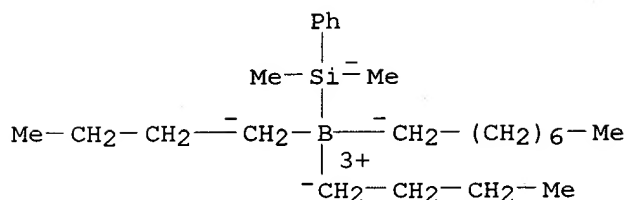
AB The title initiators D+.cntdot.R1R2R3B- (SiR4R5R6) (D+ = near-IR absorbing cationic dyes; R1-6 = hydrocarbonyl, providing .gtoreq.1 of R1-3 is C1-8 alkyl) have high sensitivities. Thus, a compn. contg. 4 g 2,2-bis[4-(3-methacryloyloxy-2-hydroxypropoxy)phenyl]propane, 6 g trimethylolpropane trimethacrylate, and 0.1% I was irradiated by laser at 830 nm and 200 mW for 10 s to give a transparent resin.
 ST near IR absorbing dye borate; cationic dye borate complex photoinitiator; methacrylate near IR photoinitiator; photochem near IR polymn catalyst
 IT Dyes

$$\begin{array}{c} \text{Ph} \\ | \\ \text{Me}-\text{Si}^--\text{Me} \\ | \\ \text{Me}-\text{CH}_2-\text{CH}_2-\text{CH}_2-\text{B}^--\text{CH}_2-\text{CH}_2-\text{CH}_2-\text{Me} \\ | \\ \text{CH}_2-\text{CH}_2-\text{CH}_2-\text{Me} \\ 3+ \end{array}$$

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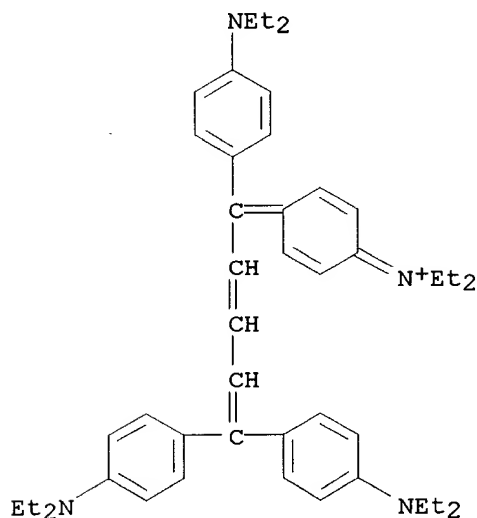
CM 1

CRN 147530-22-1
CMF C24 H46 B Si
CCI CCS
CDES 7:T-4



CM 2

CRN 96233-23-7
CMF C45 H59 N4



L10 ANSWER 23 OF 54 HCAPLUS COPYRIGHT 2000 ACS

AN 1993:180048 HCAPLUS

DN 118:180048

TI Borate cointiators for photopolymerizable compositions

IN Monroe, Bruce Malcolm; Weed, Gregory C.

PA du Pont de Nemours, E. I., and Co., USA

SO PCT Int. Appl., 29 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C08F002-50

ICS G03F007-031

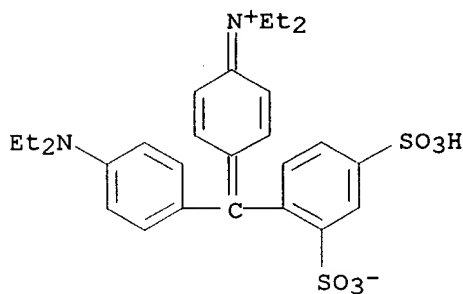
CC 74-4 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 35

FAN.CNT 1

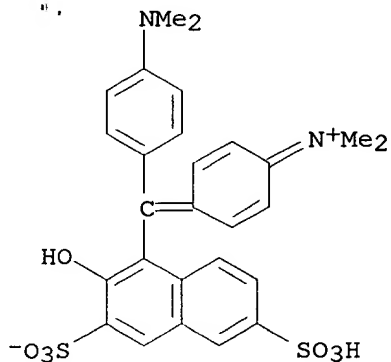
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9213900	A1	19920820	WO 1992-US358	19920129
	W: JP				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, MC, NL, SE				

US 5143818 A 19920901 US 1991-649358 19910201
 EP 569488 A1 19931118 EP 1992-904946 19920129
 EP 569488 B1 19960904
 R: DE, FR, GB, IT
 JP 06505287 T2 19940616 JP 1992-505355 19920129
 PRAI US 1991-649358 19910201
 WO 1992-US358 19920129
 AB The title photopolymerizable compns. comprise a free-radical polymerizable unsatd. compd. and an initiator system comprising an anionic dye capable of absorbing actinic **radiation** and a borate anion BX₁X₂X₃X₄- [X₁-X₄ = alkyl, alkenyl, aryl, aralkyl, alkynyl, alicyclic, allyl, heterocyclyl with the proviso that .gtoreq.1 of X₁-X₄ is not aryl]. The compns. have improved relative photospeed.
 ST photopolymerizable compn free radical initiator; borate dye mixt **photoinitiator**
 IT Polymerization catalysts
 (photochem., dye-borate mixts. as)
 IT 129-17-9, Patent blue vf 3087-16-9, Lissamine green B 6104-58-1, Brilliant blue G 6104-59-2, Brilliant blue R 13545-67-0, Ethyl orange 117522-01-7 136445-81-3
 RL: USES (Uses)
 (photopolymn. initiator systems contg.)
 IT 129-17-9, Patent blue vf 3087-16-9, Lissamine green B 6104-58-1, Brilliant blue G 6104-59-2, Brilliant blue R
 RL: USES (Uses)
 (photopolymn. initiator systems contg.)
 RN 129-17-9 HCAPLUS
 CN Ethanaminium, N-[4-[[4-(diethylamino)phenyl](2,4-disulfophenyl)methylene]-2,5-cyclohexadien-1-ylidene]-N-ethyl-, inner salt, sodium salt (9CI) (CA INDEX NAME)



● Na

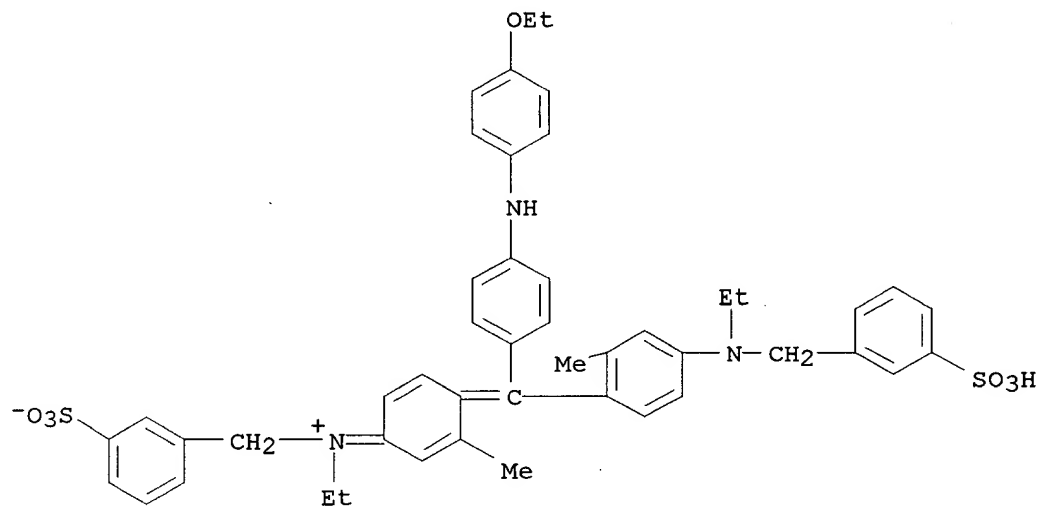
RN 3087-16-9 HCAPLUS
 CN Methanaminium, N-[4-[[4-(dimethylamino)phenyl](2-hydroxy-3,6-disulfo-1-naphthalenyl)methylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, inner salt, monosodium salt (9CI) (CA INDEX NAME)



● Na

RN 6104-58-1 HCAPLUS
 CN Benzenemethanaminium, N-[4-[[4-[(4-ethoxyphenyl)amino]phenyl][4-[ethyl[(3-sulfophenyl)methyl]amino]-2-methylphenyl]methylene]-3-methyl-2,5-cyclohexadien-1-ylidene]-N-ethyl-3-sulfo-, inner salt, monosodium salt (9CI) (CA INDEX NAME)

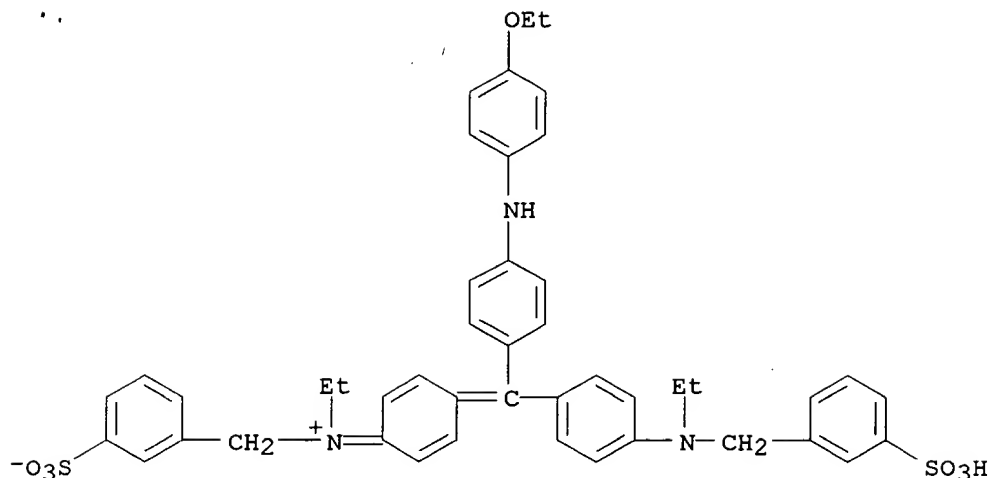
PAGE 1-A



PAGE 2-A

● Na

RN 6104-59-2 HCAPLUS
 CN Benzenemethanaminium, N-[4-[[4-[(4-ethoxyphenyl)amino]phenyl][4-[ethyl[(3-sulfophenyl)methyl]amino]phenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-ethyl-3-sulfo-, inner salt, monosodium salt (9CI) (CA INDEX NAME)



● Na

L10 ANSWER 24 OF 54 HCAPLUS COPYRIGHT 2000 ACS
 AN 1992:601911 HCAPLUS
 DN 117:201911
 TI Photopolymerizable composition sensitive to visible light
 IN Ishii, Koichi
 PA Pilot Corp., Japan
 SO Jpn. Kokai Tokkyo Koho, 10 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM G03F007-028
 ICS G03F007-029
 CC 74-4 (Radiation Chemistry, Photochemistry, and Photographic and Other
 Reprographic Processes)
 Section cross-reference(s): 37

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 03293670	A2	19911225	JP 1990-96979	19900412
AB	In the title photopolymerizable compn. contg. an ethylenic monomer(s) and a photopolymn. initiator, the photopolymn. initiator comprises a basic dye, a tertiary aliph. amine and(or) a tertiary phosphine, and a tertiary thiophosphite. The compn. shows high sensitivity not only to UV but also to visible light, and its polymn. can be expected even with a light-bulb used for illumination.				
ST	photopolymn compn visible light; initiator photopolymn visible light				
IT	Polymers, uses				
	RL: USES (Uses)				
	(photo-, ethylenic, compn. of)				
IT	Siloxanes and Silicones, uses				
	RL: USES (Uses)				
	(acrylate-, photopolymerizable compns. contg. X-62-7192)				
IT	Polymerization catalysts				
	(photochem., amines, phosphines and phosphites contg.)				
IT	Photoimaging compositions and processes				
	(photopolymerizable, photoinitiators for, for UV or visible light exposure)				
IT	Alkenes, polymers				
	RL: USES (Uses)				
	(polymers, photo-, compn. of)				
IT	Amines, uses				
	RL: USES (Uses)				
	(tertiary, photopolymn. initiator compns. contg.)				

IT, 4491-03-6D, Bisphenol A diacrylate, ethylene oxide modified 15625-89-5
 24447-78-7 26403-58-7, Poly(ethylene glycol) acrylate 77641-99-7,
 Kayarad DPHA 78446-93-2 125147-94-6, Kayarad CL-50 138789-58-9,
 Kayarad ARC-82 144045-91-0, CM 619 144046-21-9, Kayarad TRA 320
 RL: USES (Uses)
 (photopolymerizable compns. contg.)

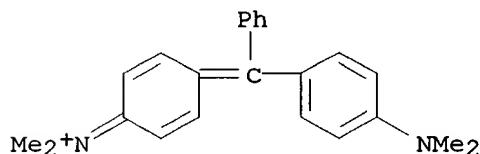
IT 3053-68-7, TPPS
 RL: USES (Uses)
 (radical generator, TPP-S, photopolymerizable compn. contg.)

IT 102-71-6, uses 102-79-4, Butyldiethanolamine 102-86-3, Trihexylamine
 102-87-4, Trilaurylamine 105-59-9, Methyldiethanolamine 603-35-0,
 Triphenylphosphine, uses 1656-63-9 2622-14-2, Tricyclohexylphosphine
 4731-53-7, Trioctylphosphine 7378-99-6, Dimethyloctylamine 7650-89-7,
 Tribenzylphosphine 40717-21-3 41556-26-7, Sanol LS-765 107119-91-5,
 Mark LA-62 115055-30-6 122687-44-9 143610-28-0 143610-29-1
 144045-89-6, Chelex LT 3
 RL: USES (Uses)
 (radical generator, photopolymerizable compn. contg.)

IT 61-73-4 65-61-2, Acridine Orange 81-88-9 135-49-9, Acridine Yellow
 477-73-6 531-53-3, Azure A 531-55-5, Azure B 553-24-2, Neutral Red
 569-64-2, Malachite Green 581-64-6 989-38-8, Rhodamine 6G
 1694-09-3, Acid Violet 5B 2390-54-7 2465-27-2
 2580-56-5, Aizen Victoria Blue BH 2679-01-8, Methylene Green
 3056-93-7 3648-36-0 6441-82-3 12217-48-0 12221-86-2, C.I. Basic
 Yellow 40
 RL: USES (Uses)
 (sensitizer, photopolymerizable compn. contg.)

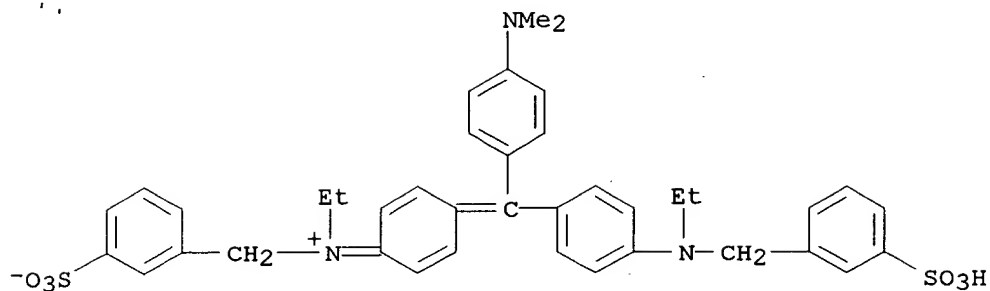
IT 569-64-2, Malachite Green 1694-09-3, Acid Violet 5B
 2580-56-5, Aizen Victoria Blue BH
 RL: USES (Uses)
 (sensitizer, photopolymerizable compn. contg.)

RN 569-64-2 HCAPLUS
 CN Methanaminium, N-[4-[[4-(dimethylamino)phenyl]phenylmethylene]-2,5-
 cyclohexadien-1-ylidene]-N-methyl-, chloride (9CI) (CA INDEX NAME)



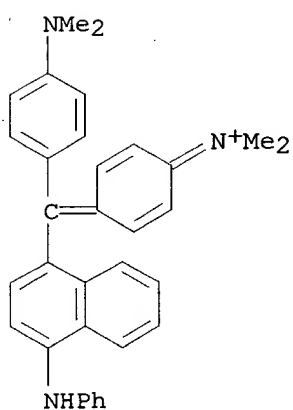
● Cl⁻

RN 1694-09-3 HCAPLUS
 CN Benzenemethanaminium, N-[4-[[4-(dimethylamino)phenyl][4-[ethyl[(3-
 sulfophenyl)methyl]amino]phenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-
 ethyl-3-sulfo-, inner salt, sodium salt (9CI) (CA INDEX NAME)



● Na

RN 2580-56-5 HCAPLUS
 CN Methanaminium, N-[4-[[4-(dimethylamino)phenyl][4-(phenylamino)-1-naphthalenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

L10 ANSWER 25 OF 54 HCAPLUS COPYRIGHT 2000 ACS
 AN 1992:427896 HCAPLUS
 DN 117:27896
 TI Manufacture of light- and heat-sensitive porous microcapsules
 IN Takahashi, Hiroshi; Sakuhara, Toshihiko; Iwasaki, Fumiharu
 PA Seiko Denshi Kogyo K. K., Japan
 SO Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C08F002-44
 ICS B01J013-16
 CC 37-2 (Plastics Manufacture and Processing)
 FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04046902	A2	19920217	JP 1990-158191	19900615
	JP 2551498	B2	19961106		
	US 5292458	A	19940308	US 1991-682914	19910409
	US 5510224	A	19960423	US 1993-132579	19931006
PRAI	JP 1990-94305		19900410		
	JP 1990-147021		19900605		

JP 1990-158191 19900615
 JP 1990-179250 19900705
 JP 1990-278194 19901017
 US 1991-682914 19910409

AB In the manuf. of title microcapsules contg. polymerizable monomers and photoinitiators decomposable by visible light, a process removing O from the monomers is included. Adding photosensitizer 0.1, DMF 1, and HMDI 5 parts to 25 parts trimethylolpropane triacrylate and 1.4 part crystal violet; stirring for 2 h while bubbling with N, emulsifying with aq. poly(vinyl alc.), adding 2.93 part diethylenetriamine, and aging for 1 h gave microcapsules, which when exposed to a 300-W Xe arc lamp with a UV cut filter cured in 0.97 s, V 2.55 s without the N.

ST light heat sensitive microcapsule manuf; oxygen removal microcapsule light sensitive; HMDI diethylenetriamine microcapsule trimethylolpropane triacrylate

IT Heat-sensitive materials
 Light-sensitive materials
 (microcapsules, contg. acrylic monomers and **photoinitiators**)

IT Polyureas
 RL: USES (Uses)
 (microcapsules, contg. acrylic monomers and **photoinitiators**, heat- and light-sensitive)

IT Encapsulation
 (micro-, of acrylic monomers and **photoinitiators**, oxygen removal in, for increased light sensitivity)

IT Polymerization catalysts
 (photochem., visible light-decomposable, microcapsules contg., manuf. of)

IT 7727-37-9, Nitrogen, uses
 RL: USES (Uses)
 (bubbling with, for oxygen removal, in manuf. of light- and heat-sensitive microcapsules)

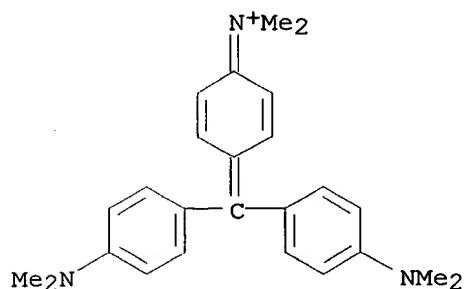
IT 65328-78-1
 RL: USES (Uses)
 (microcapsules, contg. acrylic monomers and **photoinitiators**, heat- and light-sensitive)

IT **548-62-9**, Crystal violet 15625-89-5, Trimethylolpropane triacrylate
 RL: USES (Uses)
 (microencapsulation of, by polyurea, heat- and light-sensitive)

IT **548-62-9**, Crystal violet
 RL: USES (Uses)
 (microencapsulation of, by polyurea, heat- and light-sensitive)

RN 548-62-9 HCAPLUS

CN Methanaminium, N-[4-[bis[4-(dimethylamino)phenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, chloride (9CI) (CA INDEX NAME)

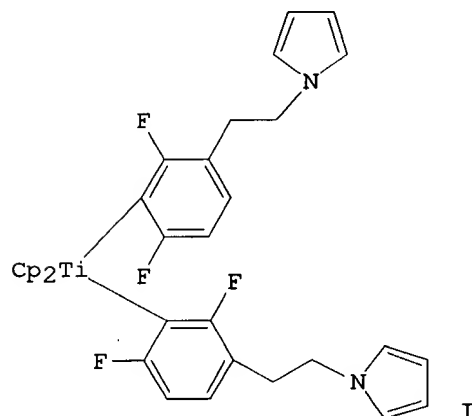


● Cl⁻

AM 1991:536397 HCAPLUS
 DN 115:136397
 TI Preparation of bis[(aminoalkyl)difluoroaryl]titanocenes as photoinitiators
 IN Steiner, Eginhard; Beyeler, Harry; Huesler, Rinaldo
 PA Ciba-Geigy A.-G., Switz.
 SO Eur. Pat. Appl., 28 pp.
 CODEN: EPXXDW
 DT Patent
 LA German
 IC ICM C07F017-00
 ICS C07F007-28; C08F002-50; G03F007-027
 CC 29-10 (Organometallic and Organometalloidal Compounds)
 Section cross-reference(s): 35

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 401166	A2	19901205	EP 1990-810378	19900523
	EP 401166	A3	19910206		
	EP 401166	B1	19950222		
	R: DE, FR, GB, IT				
	<u>US 5068371</u>	A	19911126	US 1990-527989	19900523
	CA 2017934	AA	19901201	CA 1990-2017934	19900530
	JP 03027393	A2	19910205	JP 1990-144238	19900601
PRAI	CH 1989-2075		19890601		
OS	MARPAT 115:136397				
GI					



AB RR1R2R3Ti [R,R1 = (substituted) cyclopentadienyl, indenyl, 4,5,6,7-tetrahydroindenyl; R2,R3 = aminoalkyl-substituted Ph or 5- or 6-membered heteroaryl fluorinated in both positions ortho to the C-Ti bond], were prep'd. Thus, a mixt. of bis(cyclopentadienyl)titanium dichloride and 1-[2-(2,4-difluorophenyl)ethyl]-1H-pyrrole in THF at -20.degree. was treated with LiN(CHMe2)2 in THF and the mixt. was stirred 2 h at -20.degree. to give title comp'd. I. I was used in photohardening of a mixt. of Scripset 540, trimethylolpropane triacrylate, polyethylene glycol diacrylate, and crystal violet.

ST fluoroarylcyclopentadienyltitanocene acrylate photohardener; titanocene dichloride arylation difluorobenzene; photoinitiator aminoalkyldifluoroaryltitanocene

IT Polymerization catalysts
 (photochem., (difluoroaryl)cyclopentadienyltitanocenes)

IT 1271-19-8, Bis(cyclopentadienyl)titanium dichloride 32698-18-3,
 Bis(methylcyclopentadienyl)titanium chloride
 RL: RCT (Reactant)
 (arylation of, with difluorobenzene deriv.)

IT 140-88-5

RL: RCT (Reactant)
(condensation of, with diazotized difluoroaniline)

IT 100-52-7, Benzaldehyde, reactions 4300-97-4, Chloropivaloyl chloride
RL: RCT (Reactant)
(condensation of, with difluorobenzylamine, in prepn. of
photoinitiator)

IT 15721-22-9
RL: RCT (Reactant)
(condensation of, with hexyldifluorobenzylamine, in prepn. of
photoinitiator)

IT 110-13-4, Acetonylacetone 696-59-3, 2,5-Dimethoxytetrahydrofuran
13528-93-3, 1,2-Bis(chlorodimethylsilyl)ethane
RL: RCT (Reactant)
(cyclocondensation of, with difluorobenzylamine, in prepn. of
photoinitiator)

IT 367-25-9, 2,4-Difluoroaniline
RL: RCT (Reactant)
(diazotization and condensation of, with acrylate)

IT 67-56-1, Methanol, reactions 75-09-2, reactions **548-62-9**,
Crystal violet 1328-53-6, C.I. Pigment Green 7 3524-68-3, Sartomer SR
444 9003-08-1, Cymel 301 9003-39-8, Polyvinylpyrrolidone 15625-89-5
26570-48-9, Polyethyleneglycol diacrylate 39288-86-3, Carboset 525
58206-31-8, Scripset 540
RL: RCT (Reactant)
(photopolymerization of mixts. containing, (difluoroaryl)titanium
photoinitiators for)

IT 72235-52-0P, 2,4-Difluorobenzylamine 134672-65-4P 134672-66-5P
134672-67-6P 134672-68-7P 134672-69-8P 134672-70-1P 134672-71-2P
134672-72-3P 134672-73-4P 134672-74-5P 134672-75-6P 134672-76-7P
134672-77-8P 134672-78-9P 134672-79-0P 134672-80-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, as intermediate for aryltitanocene photohardener)

IT 134651-76-6P 134651-77-7P 134651-78-8P 134651-79-9P 134651-80-2P
136049-19-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, as **photoinitiator**)

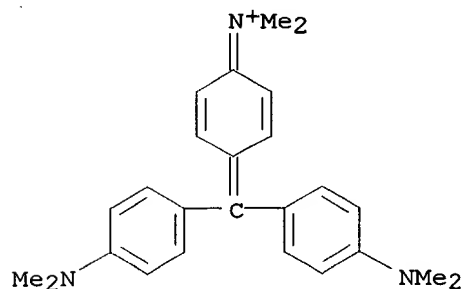
IT 64248-64-2, 2,5-Difluorobenzonitrile
RL: RCT (Reactant)
(reduction of, in preparation of aryltitanocene **photoinitiator**)

IT 66-25-1, Capronaldehyde
RL: RCT (Reactant)
(reductive condensation of, with difluorobenzylamine, in preparation of
photoinitiator)

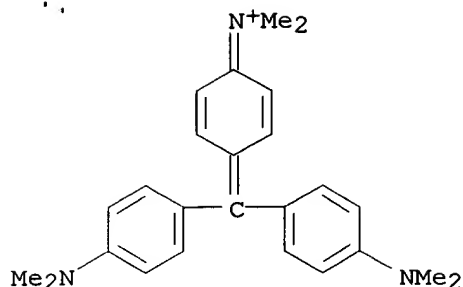
IT **548-62-9**, Crystal violet
RL: RCT (Reactant)
(photopolymerization of mixts. containing, (difluoroaryl)titanium
photoinitiators for)

RN 548-62-9 HCAPLUS

CN Methanaminium, N-[4-[bis[4-(dimethylamino)phenyl]methylene]-2,5-
cyclohexadien-1-ylidene]-N-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻



● Cl⁻

L10 ANSWER 27 OF 54 HCAPLUS COPYRIGHT 2000 ACS
 AN 1991:249496 HCAPLUS
 DN 114:249496
 TI Photopolymerizable compositions and recording media
 IN Okuma, Norio; Minami, Toru; Ohayashi, Hiroharu; Noda, Mariko
 PA Canon K. K., Japan; Sanyo Chemical Industries, Ltd.
 SO Jpn. Kokai Tokkyo Koho, 13 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C08F002-50
 ICS G03F007-004; G03F007-028
 CC 42-12 (Coatings, Inks, and Related Products)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 03000704	A2	19910107	JP 1989-132876	19890529

OS MARPAT 114:249496

AB The title compns. with high photosensitivity, suitable for one-shot photothermal transfer color recording, contain radical-polymerizable ethylenic double bond-contg. compd. and a photoinitiator including onium compds. Ar1I+Ar2B-(Ar3)3R1 (Ar1, Ar2, Ar3 = aryl; R1 = alkyl, aralkyl, alkaryl, alkenyl, alkynyl, alicyclic group, heterocyclic group). A soln. of trimethylolpropane triacrylate 20, PMMA 15, 4,4'-bis(methylthio)benzil 1, Et p-dimethylaminobenzoate 0.5, and (BuC6H4)2I⁺ -BPh3Bu (I) 0.8 g in 100 mL dichloromethane was spin-coated on Al to a thickness of 4 .mu.m, covered with a poly(vinyl alc.) film, exposed via a 10-step optical wedge, and developed in 1,1,1-trichloroethane to give 9 steps, compared with 5 for a control using Ph2I⁺ PF6⁻ in place of I.

ST iodonium borate acrylic photopolymn initiator; photothermal transfer recording media initiator; benzil photoinitiator photothermal transfer recording

IT Onium compounds

RL: USES (Uses)

(iodonium, borates, **photoinitiators**, for photothermal transfer recording materials)

IT Polymerization catalysts

(photochem., iodonium borate-contg., for photothermal transfer recording materials)

IT Recording materials

(thermooptical, transfer, iodonium borate **photoinitiators** for)

IT 61358-24-5P

RL: RCT (Reactant); PREP (Preparation)

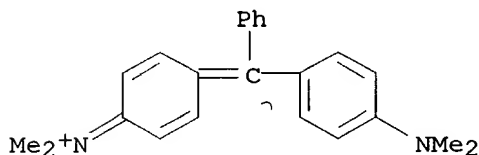
(manuf. and reaction with lithium borate)

IT 133972-99-3P

RL: PREP (Preparation)

(manuf. of, for **photoinitiators** for photothermal transfer recording materials)

IT, 132838-87-0 133954-57-1 133954-58-2
 RL: USES (Uses)
 (photoinitiators contg., for photothermal transfer recording materials)
 IT 86-39-5 90-47-1, 9H-Xanthen-9-one **569-64-2** 1226-42-2,
 4,4'-Dimethoxybenzil 6597-43-9 10287-53-3, Ethyl p-
 dimethylaminobenzoate 14696-39-0 41996-78-5 53458-17-6 63226-13-1
 71241-80-0 133954-59-3
 RL: USES (Uses)
 (photoinitiators, contg. iodonium borates, for photothermal transfer recording materials)
 IT 9011-14-7, PMMA 36446-02-3, Trimethylolpropane triacrylate polymer
 134054-58-3
 RL: USES (Uses)
 (photothermal transfer recording materials contg., photoinitiators for)
 IT 65859-86-1
 RL: RCT (Reactant)
 (reaction of, with bis(butylphenyl)iodonium sulfate)
 IT 7758-05-6, Potassium iodate
 RL: RCT (Reactant)
 (reaction of, with butylbenzene)
 IT 98-06-6, tert-Butylbenzene
 RL: RCT (Reactant)
 (reaction of, with potassium iodate)
 IT **569-64-2**
 RL: USES (Uses)
 (photoinitiators, contg. iodonium borates, for photothermal transfer recording materials)
 RN 569-64-2 HCAPLUS
 CN Methanaminium, N-[4-[[4-(dimethylamino)phenyl]phenylmethylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, chloride (9CI) (CA INDEX NAME)

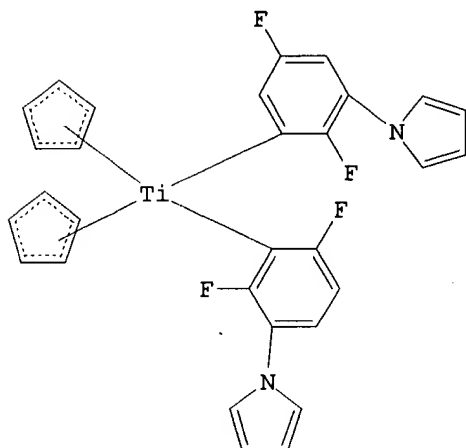


● Cl⁻

L10 ANSWER 28 OF 54 HCAPLUS COPYRIGHT 2000 ACS
 AN 1991:247538 HCAPLUS
 DN 114:247538
 TI Preparation of bis(2,6-difluorophenyl)titanocenes as photoinitiators
 IN Desobry, Vincent
 PA Ciba-Geigy A.-G., Switz.
 SO Eur. Pat. Appl., 23 pp.
 CODEN: EPXXDW
 DT Patent
 LA German
 IC ICM C07F017-00
 ICS C07F007-28; C08F002-50; G03F007-027
 CC 29-10 (Organometallic and Organometalloidal Compounds)
 Section cross-reference(s): 35, 74
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 401167	A2	19901205	EP 1990-810379	19900523
	EP 401167	A3	19910306		
	EP 401167	B1	19940608		

R: BE, CH, DE, FR, GB, IT, LI, NL
 US 5075467 A 19911224 US 1990-527990 19900523
 CA 2017931 AA 19901201 CA 1990-2017931 19900530
 DD 297974 A5 19920130 DD 1990-341140 19900530
 JP 03020293 A2 19910129 JP 1990-143270 19900531
 JP 2764338 B2 19980611
 PRAI CH 1989-2053 19890601
 OS MARPAT 114:247538
 GI



II

- AB TiR1R1R2R2 [I; R1 = (substituted) cyclopentadienyl, indenyl, tetrahydroindenyl; 2 R1's may be connected via (substituted) C2-12 alkylene, silylene, silyloxysilyl; R2 = (addnl. substituted) 2,6-F2C6H3], were prepd. by reaction of (R1)2TiX2 (X = Cl, Br, iodo) with LiR2 (prepn. from AR2 and a Li amide). Thus, dicyclopentadienyltitanium dichloride and N-(2,4-difluorophenyl)pyrrole in THF at -10.degree. were treated with LiN(CHMe2)2 in THF/hexose over 30 min; the mixt. stirred an addnl. 30 min and treated with oxalic acid in THF and then H2O to give 87.8% title compd. II. I were used as photohardeners for a mixt. contg. Sartomer SR 444 Cymel 301, Carboset 525, polyvinylpyrrolidone, and Irgalit green.
- ST fluorophenyltitanocene prepn photoinitiator; titanocene bisdifluorophenyl prepn photoinitiator
- IT Polymerization catalysts
 (photochem., bis(difluorophenyl)titanocenes)
- IT 15721-22-9, 2,2-Dimethylpentanoyl chloride
 RL: RCT (Reactant)
 (acylation by, of benzyldifluoroaniline)
- IT 367-25-9
 RL: RCT (Reactant)
 (condensation of, with benzaldehyde)
- IT 100-52-7, Benzaldehyde, reactions 104-87-0
 RL: RCT (Reactant)
 (condensation of, with difluoroaniline)
- IT 125126-63-8
 RL: RCT (Reactant)
 (lithiation and condensation of, with dicyclopentadienyltitanium dichloride)
- IT 548-62-9 1328-53-6, C.I. Pigment Green 7 3524-68-3, Sartomer SR 444 9003-08-1, Cymel 301 9003-39-8, Polyvinylpyrrolidone 15625-89-5 26570-48-9 39288-86-3, Carboset 525 58206-31-8
 RL: RCT (Reactant)
 (photopolymn. of mixts. contg., bis(difluorophenyl)titanocenes for)
- IT 15110-96-0P 123330-55-2P 124704-61-6P 134018-66-9P 134018-67-0P 134018-68-1P
 RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. of, as intermediate for diphenyltitanocene deriv.)

IT 12155-89-4P 93709-30-9P 93709-35-4P 93709-36-5P 93709-38-7P
 93709-39-8P 115418-16-1P 115418-17-2P 119989-71-8P 119989-72-9P
 124720-11-2P 124720-18-9P 124720-23-6P 124720-36-1P 124720-37-2P
 124756-55-4P 124756-64-5P 124756-67-8P 124786-17-0P 124786-21-6P
 125051-32-3P 125396-57-8P 125396-73-8P 133922-99-3P 133923-00-9P
 133923-01-0P 133923-02-1P 133923-03-2P 133923-04-3P 133923-05-4P
 133923-06-5P 133923-08-7P 133972-77-7P 133972-78-8P 133972-79-9P
 133972-80-2P 133972-81-3P 133972-82-4P 133972-83-5P
 RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. of, as photoinitiator)

IT 1271-19-8, Titanocene dichloride
 RL: RCT (Reactant)

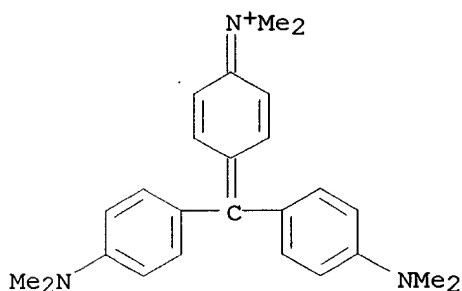
(reaction of, in prepn. of bis(difluorophenyl)titanocenes)

IT 548-62-9
 RL: RCT (Reactant)

(photopolymn. of mixts. contg., bis(difluorophenyl)titanocenes for)

RN 548-62-9 HCAPLUS

CN Methanaminium, N-[4-[bis[4-(dimethylamino)phenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, chloride (9CI) (CA INDEX NAME)

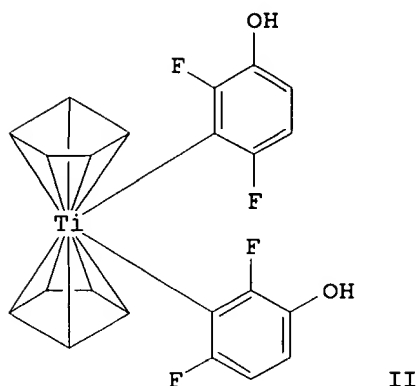


● Cl⁻

L10 ANSWER 29 OF 54 HCAPLUS COPYRIGHT 2000 ACS
 AN 1991:247537 HCAPLUS
 DN 114:247537
 TI Preparation of oxygen-containing bis(difluoroaryl)titanocenes as photoinitiators
 IN Steiner, Eginhard; Beyeler, Harry; Riediker, Martin; Desobry, Vincent; Dietliker, Kurt; Huesler, Rinaldo
 PA Ciba-Geigy A.-G., Switz.
 SO Eur. Pat. Appl., 24 pp.
 CODEN: EPXXDW
 DT Patent
 LA German
 IC ICM C07F017-00
 ICS C07F007-28; C08F002-50; G03F007-027
 CC 29-10 (Organometallic and Organometalloidal Compounds)
 Section cross-reference(s): 35, 74

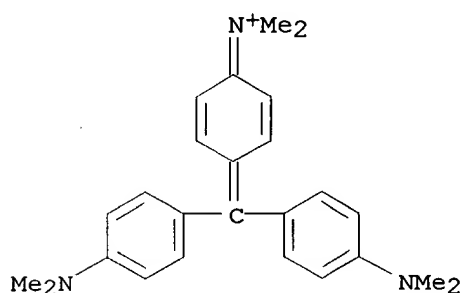
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 401165	A1	19901205	EP 1990-810377	19900523
	EP 401165	B1	19941130		
	R: DE, FR, GB, IT				
	<u>US 5192642</u>	A	19930309	US 1990-527988	19900523
	CA 2017932	AA	19901201	CA 1990-2017932	19900530
	JP 03012403	A2	19910121	JP 1990-144239	19900601
	JP 2905985	B2	19990614		
	<u>US 5306600</u>	A	19940426	US 1992-975042	19921112



- AB TiR1R2R3R4 [I; R1, R2 = (substituted) cyclopentadienyl, indenyl, tetrahydroindenyl; R3, R4 = (addnl. substituted) hydroxy- or acyloxy-substituted 2,6-F2C6H3, difluoroheteroaryl] were prepd. Thus, a mixt. of titanocene dichloride, 1-(trimethylsiloxy)-2,4-difluorobenzene, and THF at -10.degree. was treated with LDA in THF/hexane over 30 min; the mixt. was stirred 1 h at 0.degree. to give title compd. II after workup using oxalic acid-H2O. I were used in photohardening of a mixt. of Scripset 540, trimethylolpropane triacrylate, polyethylene glycol diacrylate, and crystal violet.
- ST fluoroaryltitanocene prepn photoinitiator; titanocene bisdifluoroaryl prepn photoinitiator
- IT Dental materials and appliances
 (oxygen-contg. bis(difluorophenyl)titanocene **photoinitiators** for use in)
- IT Coating materials
 (lacquers, oxygen-contg. bis(difluorophenyl)titanocene **photoinitiators** for use in)
- IT Resists
 (photo-, oxygen-contg. bis(difluorophenyl)titanocene **photoinitiators** for)
- IT Inks
 (printing, oxygen-contg. bis(difluorophenyl)titanocene **photoinitiators** for use in)
- IT 98-59-9, Tosyl chloride 108-24-7 111-36-4, Butyl isocyanate 112-13-0, Decanoyl chloride 112-76-5, Stearoyl chloride 123-62-6, Propionic anhydride 543-27-1, Isobutyl chloroformate 920-46-7, Methacryloyl chloride 1795-48-8, Isopropyl isocyanate
 RL: RCT (Reactant)
 (acylation by, of bis(hydroxyphenyl)titanocene deriv.)
- IT 548-62-9, Crystal violet 1328-53-6, C.I. Pigment Green 7 3524-68-3, Sartomer SR 444 9003-08-1, Cymel 301 9003-39-8, Polyvinylpyrrolidone 15625-89-5 26570-48-9, Polyethylene glycol diacrylate 39288-86-3, CarboSet 525 58206-31-8, Scripset 540
 RL: RCT (Reactant)
 (photopolymn. of mixts. contg., bis(difluorophenyl)titanocene **photoinitiators** for)
- IT 133923-01-0P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation) (prepn. and deprotection of)
- IT 134026-64-5P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation) (prepn. and desilylation of)

IT, 133923-00-9P 134026-63-4P 134041-35-3P 134041-36-4P 134041-37-5P
 134041-38-6P 134041-39-7P 134041-40-0P 134041-41-1P 134041-42-2P
 134041-43-3P 134041-44-4P 134041-45-5P 134064-93-0P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of, as **photoinitiator**)
 IT 134127-56-3P 134127-57-4P 134127-58-5P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
 (prepn., lithiation, and condensation of, with titanocene dichloride)
 IT 67373-56-2
 RL: RCT (Reactant)
 (silylation by, of bis(hydroxyphenyl)titanocene deriv.)
 IT 367-27-1, 2,4-Difluorophenol 769-39-1, 2,3,5,6-Tetrafluorophenol
 RL: RCT (Reactant)
 (silylation of)
 IT 548-62-9, Crystal violet
 RL: RCT (Reactant)
 (photopolymn. of mixts. contg., bis(difluorophenyl)titanocene
photoinitiators for)
 RN 548-62-9 HCAPLUS
 CN Methanaminium, N-[4-[bis[4-(dimethylamino)phenyl]methylene]-2,5-
 cyclohexadien-1-ylidene]-N-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

L10 ANSWER 30 OF 54 HCAPLUS COPYRIGHT 2000 ACS
 AN 1990:581461 HCAPLUS
 DN 113:181461
 TI Photopolymerizable mixtures and recording materials therefrom
 PA Hoechst A.-G., Fed. Rep. Ger.
 SO Jpn. Kokai Tokkyo Koho, 15 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C08F002-50
 ICS C09D004-00; C09D004-02; C09D011-10; G03F007-028
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other
 Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 02127404	A2	19900516	JP 1989-246220	19890921
	JP 2755723	B2	19980525		
	EP 364735	B1	19940601	EP 1989-117004	19890914
	R: DE, FR, GB, IT, NL				
	BR 8904730	A	19900529	BR 1989-4730	19890920
	CA 1336045	A1	19950627	CA 1989-612043	19890920
	US 5049479	A	19910917	US 1989-410267	19890921

PRAI DE 1988-3832032 19880921

AB The title mixts. useful for photoresists contain a polymeric binder,
 radical polymerizable compd. with .gtoreq.1 polymerizable group, and

photoreducible dye-based photoinitiator contg. radiation-cleavable trihalomethyl compd. and metallocene compd.

ST photoresist polymer photoinitiator halomethyl compd; metallocene photoinitiator photoresist polymer; photoreducible dye photoinitiator photoresist polymer

IT Resists
(photo-, high-resoln., compns. for)

IT Polymerization catalysts
(photochem., photoreducible dyes and photocleavable dihalo compds. and metallocene, for high-resoln. photoresists)

IT 25133-97-5, Methyl methacrylate-ethyl acrylate-methacrylic acid copolymer
RL: USES (Uses)
(binders, for photoresists)

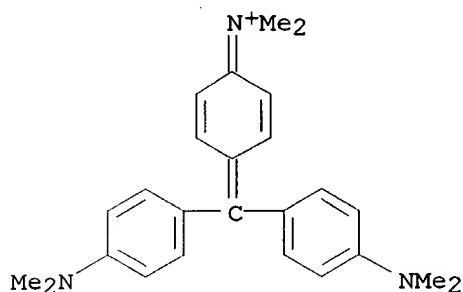
IT 548-62-9, Crystal violet 949-42-8 6359-05-3 6378-88-7
6542-67-2, 2,4,6-Tris(trichloromethyl)-S-triazine 12155-89-4
17025-47-7, Phenyl tribromomethyl sulfone 24504-22-1 69432-49-1
69432-53-7 97189-93-0 97802-84-1, 2,4-Bis(trichloromethyl)-6-(4-styrylphenyl)-S-triazine
RL: USES (Uses)
(**photoinitiators** contg., for photoresists)

IT 102-71-6D, Triethanolamine, reaction products with 2-isocyanatoethyl methacrylate 106-91-2D, Glycidyl methacrylate, reaction products with triethanolamine 122-96-3D, N,N'-Bis(2-hydroxyethyl)piperazine, reaction products with triethanolamine 822-06-0D, Hexamethylene diisocyanate, reaction products with hydroxyethyl methacrylate 868-77-9D, 2-Hydroxyethyl methacrylate, reaction products with trimethylhexamethylene isocyanate 3524-68-3, Pentaerythritol triacrylate 16938-22-0D, 2,2,4-Trimethylhexamethylene diisocyanate, reaction products with hydroxyethyl methacrylate 19778-85-9, Trimethylolethane triacrylate 30674-80-7D, 2-Isocyanatoethyl methacrylate, reaction products with triethanolamine 85854-45-1, Triethylene glycol methacrylate
RL: USES (Uses)
(photoresists contg., **photoinitiators** for)

IT 548-62-9, Crystal violet
RL: USES (Uses)
(**photoinitiators** contg., for photoresists)

RN 548-62-9 HCAPLUS

CN Methanaminium, N-[4-[bis[4-(dimethylamino)phenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, chloride (9CI) (CA INDEX NAME)



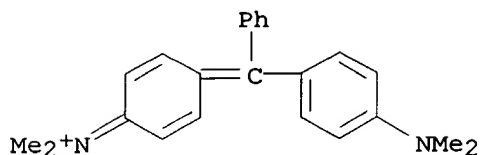
● Cl⁻

L10 ANSWER 31 OF 54 HCAPLUS COPYRIGHT 2000 ACS
AN 1990:488252 HCAPLUS
DN 113:88252
TI Photopolymerization initiators and photosensitive materials containing them
IN Fukui, Tetsuro; Miura, Kyo; Takasu, Yoshio
PA Canon K. K., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C08F002-50
 ICS G03F007-029; G03F007-20
 CC 74-4 (Radiation Chemistry, Photochemistry, and Photographic and Other
 Reprographic Processes)
 Section cross-reference(s): 35

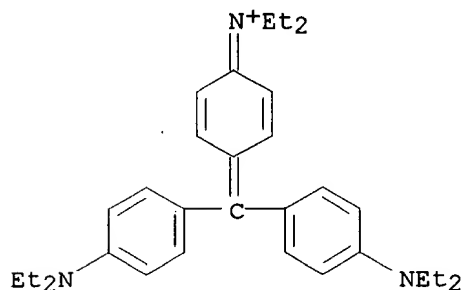
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	JP 02004804	A2	19900109	JP 1988-155696	19880622
OS	MARPAT 113:88252				
AB	<p>Photosensitive materials comprise radical-polymerizable compds. and photopolymn. initiators contg. cationic dye sensitizers and borate salts. The initiators show good sensitivity to semiconductor laser radiation and are useful for resists, printing plates, and the like. Thus, treating BuMgBr with Ph2BCl in THF and stirring the resulting soln. with aq. NaOH gave NaBBu2Ph2. Then, a soln. contg. pentaerythritol triacrylate, poly(Me methacrylate), NaBBu2Ph2, AcOEt, malachite green, and dichloroethane was applied on an anodically oxidized Al plate and exposed to a He-Ne laser to show high sensitivity.</p>				
ST	<p>polymn initiator cationic dye sensitizer; borate salt polymn initiator; photosensitive material borate polymn initiator; laser sensitive polymn initiator borate; photoresist cationic dye borate salt; printing plate photosensitive material</p>				
IT	<p>Printing plates (photoinitiators for, laser-sensitive, cationic dyes and borate salts as)</p>				
IT	<p>Dyes (cationic, photoinitiators contg. borate salts and, laser-sensitive, for photosensitive materials)</p>				
IT	<p>Resists (photo-, photoinitiators for, laser-sensitive, cationic dyes and borate salts as)</p>				
IT	<p>Polymerization catalysts (photochem., cationic dyes and borate salts as, for laser-sensitive materials)</p>				
IT	<p>3677-81-4 RL: RCT (Reactant) (Grignard reaction of, with Bu bromide)</p>				
IT	<p>109-65-9, Butyl bromide RL: RCT (Reactant) (Grignard reaction of, with diphenylchloroborane)</p>				
IT	<p>3524-68-3, Pentaerythritol triacrylate 15625-89-5, Trimethylolpropane triacrylate RL: USES (Uses) (photosensitive materials contg. cationic dyes and borate salts and)</p>				
IT	<p>127888-25-9P 128247-19-8P 128440-57-3P RL: PREP (Preparation) (prepn. and photoinitiators contg. cationic dyes and, for photosensitive materials)</p>				
IT	<p>128035-15-4 RL: RCT (Reactant) (reaction of, with butylpotassium)</p>				
IT	<p>81-88-9 569-64-2, Malachite green 2390-59-2, Ethyl violet 17094-17-6, NK 1414 107893-51-6 124896-12-4 128034-96-8 128603-76-9 128840-18-6 RL: USES (Uses) (sensitizers, photoinitiators contg. borate salts and, for photosensitive materials)</p>				
IT	<p>569-64-2, Malachite green 2390-59-2, Ethyl violet RL: USES (Uses) (sensitizers, photoinitiators contg. borate salts and, for photosensitive materials)</p>				
RN	<p>569-64-2 HCAPLUS</p>				
CN	<p>Methanaminium, N-[4-[[4-(dimethylamino)phenyl]phenylmethylene]-2,5-</p>				

● Cl⁻

RN 2390-59-2 HCAPLUS

CN Ethanaminium, N-[4-[[bis[4-(diethylamino)phenyl)methylene]-2,5-cyclohexadien-1-ylidene]-N-ethyl-, chloride (9CI) (CA INDEX NAME)

● Cl⁻

L10 ANSWER 32 OF 54 HCAPLUS COPYRIGHT 2000 ACS

AN 1990:108574 HCAPLUS

DN 112:108574

TI Titanocenes, their use and N-substituted pyrroles

IN Huesler, Rinaldo; Klingert, Bernd; Rembold, Manfred; Steiner, Eginhard

PA Ciba-Geigy A.-G., Switz.

SO Eur. Pat. Appl., 36 pp.

CODEN: EPXXDW

DT Patent

LA German

IC ICM C07F017-00

ICS C07D207-32; C08F002-50; G03C001-68

CC 74-4 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 318894	A2	19890607	EP 1988-119799	19881128
	EP 318894	A3	19900516		
	EP 318894	B1	19940216		
	R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL, SE				
	US 5008302	A	19910416	US 1988-273522	19881121
	AT 101613	E	19940315	AT 1988-119799	19881128
	CA 1337765	A1	19951219	CA 1988-584482	19881129
	ZA 8808961	A	19890726	ZA 1988-8961	19881130
	BR 8806307	A	19890815	BR 1988-6307	19881130
	SU 1713438	A3	19920215	SU 1988-4356932	19881130
	AU 8826462	A1	19890601	AU 1988-26462	19881201
	AU 610953	B2	19910530		

JP 02000291	A2	19900105	JP 1988-305137	19881201
JP 2764288	B2	19980611		
KR 120391	B1	19971022	KR 1988-16124	19881201
SU 1792538	A3	19930130	SU 1989-4614056	19890518
US 5106722	A	19920421	US 1990-567048	19900814
<u>RU 2086555</u>	C1	19970810	RU 1991-5001952	19911114

PRAI CH 1987-4683 19871201
US 1988-273522 19881121
EP 1988-119799 19881128

OS MARPAT 112:108574

AB Titanocenes having 2 5-membered cyclodienyl groups, and 1 or 2 6-membered carbocyclic or 5- or 6-membered heterocyclic arom. rings having in both ortho positions (to the Ti-C bond) F atoms, and which further contain an (un)substituted 1-pyrrolyl group, are useful as photoinitiators for the radiation-induced polymn. of ethylenically unsatd. compds. Thus, a compn. contg. Scripset 540, trimethylolpropane triacrylate, poly(ethylene glycol diacrylate, Crystal Violet, and bis(methylcyclopentadienyl)bis(3-pyrrolyl-2,6-difluorophenyl)titanium was exposed through a step wedge and processed to show 15 steps.

ST pyrrolyl group titanocene photoinitiator polymn

IT Printing plates
(photo-sensitive compns. contg. pyrrolyl group-contg. titanocene **photoinitiators** in fabrication of)

IT Resists
(photo-, contg. pyrrolyl group-contg. titanocene **photoinitiators**)

IT Polymerization catalysts
(photochem., pyrrolyl group-contg. titanocenes as)

IT Coating materials
(photocurable, pyrrolyl group-contg. titanocenes as initiators in)

IT Photoimaging compositions and processes
(photopolymerizable, pyrrolyl group-contg. titanocenes as **photoinitiators** in)

IT Inks
(printing, photocurable, pyrrolyl group-contg. titanocenes as **photoinitiators** in)

IT 548-62-9, Crystal violet 1328-53-6, Irgalite green GLN 3524-68-3, Sartomer SR 444 9003-08-1, Cymel 301 9003-39-8, Poly(vinylpyrrolidone) 15625-89-5 26570-48-9, Polyethylene glycol diacrylate 39288-86-3, Carboset 525 58206-31-8, Scripset 540
RL: USES (Uses)
(photoimaging compns. contg. pyrrolyl group-contg. titanocene **photoinitiator** and)

IT 125051-32-3P 125396-57-8P 125396-58-9P 125396-59-0P 125396-60-3P
125396-61-4P 125396-62-5P 125396-63-6P 125396-64-7P 125396-65-8P
125396-66-9P 125396-68-1P 125396-69-2P 125396-70-5P 125396-71-6P
125396-72-7P 125396-73-8P 125434-02-8P 125434-03-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and **photoinitiator** applications of, in photoimaging and photosensitive systems)

IT 125126-73-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and reaction of)

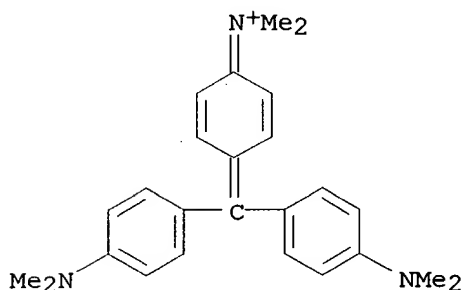
IT 125126-51-4P 125126-52-5P 125126-53-6P 125126-54-7P 125126-55-8P
125126-56-9P 125126-57-0P 125126-58-1P 125126-59-2P 125126-60-5P
125126-61-6P 125126-62-7P 125154-29-2P 125154-30-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and reaction of, with titanocene deriv.)

IT 125126-63-8P 125126-64-9P 125126-65-0P 125126-66-1P 125126-67-2P
125126-68-3P 125126-69-4P 125126-70-7P 125126-71-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of).

IT 24470-78-8
RL: RCT (Reactant)
(reaction of)

IT 110-13-4, 2,5-Hexanedione 583-05-1 696-59-3 13901-85-4 52786-29-5
56079-43-7 67756-05-2 125126-72-9

RL: RCT (Reactant)
 (reaction of, with difluoroaniline)
 IT 110-91-8, Morpholine, reactions 111-92-2, Dibutylamine 111-95-5
 124-40-3, Dimethylamine, reactions 993-07-7, Trimethylsilane
 13360-63-9, Butylethylamine
 RL: RCT (Reactant)
 (reaction of, with difluorophenyl dimethylpyrrol)
 IT 367-25-9, 2,4-Difluoroaniline
 RL: RCT (Reactant)
 (reaction of, with diketones)
 IT 1271-19-8 1282-40-2 59307-41-4 125126-50-3
 RL: RCT (Reactant)
 (reaction of, with pyrrol deriv.)
 IT 125126-58-1 125126-73-0 125126-74-1
 RL: RCT (Reactant)
 (reactions of)
 IT 548-62-9, Crystal violet
 RL: USES (Uses)
 (photoimaging compns. contg. pyrrolyl group-contg. titanocene
photoinitiator and)
 RN 548-62-9 HCAPLUS
 CN Methanaminium, N-[4-[bis[4-(dimethylamino)phenyl]methylene]-2,5-
 cyclohexadien-1-ylidene]-N-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

L10 ANSWER 33 OF 54 HCAPLUS COPYRIGHT 2000 ACS
 AN 1990:21963 HCAPLUS
 DN 112:21963
 TI Photopolymerizable binder compositions for abrasives
 PA Minnesota Mining and Mfg. Co., USA
 SO Jpn. Kokai Tokkyo Koho, 14 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM B24D003-20
 ICS B24D003-02; B24D011-00; B24D011-02; C08J005-14; C09K003-14
 CC 38-3 (Plastics Fabrication and Uses)
 Section cross-reference(s): 74
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 01020973	A2	19890124	JP 1988-82114	19880402
	JP 2749053	B2	19980513		
	EP 285369	B1	19931006	EP 1988-302777	19880329
	R: DE, FR, GB				
	CA 1296191	A1	19920225	CA 1988-562881	19880330
	KR 9701151	B1	19970129	KR 1988-3682	19880401
PRAI	US 1987-34066		19870402		
	US 1988-156992		19880218		

AB Title compns. comprise free radical-contg. monomer and photoinitiator compn. comprising arylodonium salt, photosensitizer having light absorption at 300-1000 nm in the presence of 2-methyl-4,6-bis(trichloromethyl)-s-triazine, and electron donor compd. having oxidn. potential up to that of p-dimethoxybenzene. A binder compn. contg. bisphenol A diglycidyl ether diacrylate 30, tris(hydroxyethyl) isocyanurate triacrylate 30, Photomer 6173 (a urethane acrylate monofunctional accelerator 10, diphenyliodonium hexafluorophosphate 0.5, benzil 0.5, and Et 4-dimethylaminobenzoate 0.5, and tetraethylene glycol diacrylate 30 parts was used to prep. a sand paper with Al oxide and mainly nylon nonwoven fabric by photocuring.

ST arylodonium salt photopolymn sandpaper binder; acrylate sandpaper adhesive photopolymn; photosensitizer photopolymn acrylate sandpaper binder

IT Aluminates
Glass, oxide
RL: USES (Uses)
(abrasives, sandpapers contg., adhesives for)

IT Epoxy resins, uses and miscellaneous
Phenolic resins, uses and miscellaneous
Urethane polymers, uses and miscellaneous
RL: TEM (Technical or engineered material use); USES (Uses)
(adhesives, acrylate copolymer contg., for sandpapers)

IT Sandpaper
(binders for, acrylate copolymers as, **photoinitiator** compns. for)

IT Adhesives
(for sandpapers, acrylate copolymers for, prepn. of, **photoinitiator** compns. for)

IT Carbonates, uses and miscellaneous
RL: USES (Uses)
(particles, sandpapers contg., adhesives for)

IT Electron donors
(**photoinitiator** compns., for acrylate adhesives, for sandpapers)

IT Polymerization
(photochem., of acrylates, **photoinitiator** compns. contg. photosensitizers and electron donors for, for sandpapers)

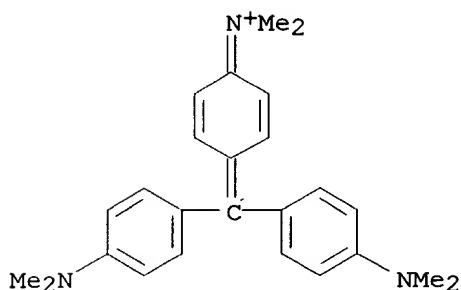
IT Crosslinking catalysts
(photosensitizers, **photoinitiator** compns., for acrylate adhesives, for sandpapers)

IT 409-21-2, Silicon carbide, uses and miscellaneous 1344-28-1, Aluminum oxide, uses and miscellaneous 7440-67-7D, Zirconium, compd. 7782-40-3, Diamond, uses and miscellaneous
RL: USES (Uses)
(abrasives, sandpapers contg., adhesives for)

IT 25034-58-6P 92899-80-4P 124303-71-5P 124331-68-6P
RL: TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(adhesives, prepn. of, **photoinitiator** compns. for, for sandpaper)

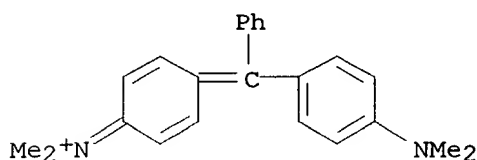
IT 62-53-3, Aniline, uses and miscellaneous 75-05-8, Acetonitrile, uses and miscellaneous 78-93-3, MEK, uses and miscellaneous 98-95-3, Nitrobenzene, uses and miscellaneous 99-97-8, N,N-Dimethyl-p-toluidine 100-10-7 102-71-6, Triethanolamine, uses and miscellaneous 103-49-1, Dibenzylamine 103-83-3, N,N-Dimethyl benzylamine 104-95-0 107-10-8, Propylamine, uses and miscellaneous 109-46-6, 1,3-Dibutylthiourea 109-99-9, THF, uses and miscellaneous 122-79-2, Phenylacetate 127-19-5 135-77-3, 1,2,4-Trimethoxybenzene 150-78-7, p-Dimethoxybenzene 603-34-9, Triphenylamine 603-35-0, uses and miscellaneous 604-88-6, Hexaethylbenzene 619-60-3 632-22-4, Tetramethyl urea 680-31-9, Hexamethylphosphoramide, uses and miscellaneous 764-13-6 2782-91-4, Tetramethyl thiourea 4455-13-4 4840-75-9 6161-50-8 10287-53-3 13368-42-8 21331-86-2, Trisdimethyl silylamine 23162-18-7, Piperidine oxide 58967-75-2
RL: USES (Uses)
(electron donors, **photoinitiator** compns. contg., for acrylate

adhesives, for sandpapers)
 IT 61-73-4, Methylene blue
 RL: USES (Uses)
 (photosensitizer as, **photoinitiator** compns. contg., for
 acrylate adhesives, for sandpapers)
 IT 81-93-6, Phenosafranine 82-38-2 86-39-5, 2-Chlorothioxanthone
 86-73-7, 9H-Fluorene 206-44-0, Fluoranthene 465-29-2, Camphorquinone
548-62-9, Crystal violet **569-64-2** 581-64-6, Thionine
 1309-37-1, Iron oxide (Fe2O3), uses and miscellaneous 1742-91-2
 2154-56-5D, Benzyl, compd. 6552-62-1 6626-84-2 6673-14-9,
 1,3-Bis(4-dimethylaminobenzylidene)acetone 6673-15-0 14323-06-9
 21856-78-0 37251-80-2, Toluidine blue 51395-88-1, Eosin Yellow
 124454-68-8
 RL: USES (Uses)
 (photosensitizers, **photoinitiator** compns. contg., for
 acrylate adhesives, for sandpapers)
 IT **548-62-9**, Crystal violet **569-64-2**
 RL: USES (Uses)
 (photosensitizers, **photoinitiator** compns. contg., for
 acrylate adhesives, for sandpapers)
 RN 548-62-9 HCAPLUS
 CN Methanaminium, N-[4-[bis[4-(dimethylamino)phenyl]methylene]-2,5-
 cyclohexadien-1-ylidene]-N-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

RN 569-64-2 HCAPLUS
 CN Methanaminium, N-[4-[[4-(dimethylamino)phenyl]phenylmethylene]-2,5-
 cyclohexadien-1-ylidene]-N-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

L10 ANSWER 34 OF 54 HCAPLUS COPYRIGHT 2000 ACS
 AN 1989:115927 HCAPLUS
 DN 110:115927
 TI Addition-polymerizable composition containing a ternary photoinitiator
 system and its polymerization
 IN Palazzotto, Michael C.; Ubel, Andrew F., III; Oxman, Joel D.; Ali, Zaki M.
 PA Minnesota Mining and Mfg. Co., USA **3M**

SG Eur. Pat. Appl., 19 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 IC ICM C08F002-50
 ICS G03C001-68; A61K006-08
 CC 37-3 (Plastics Manufacture and Processing)
 Section cross-reference(s): 63

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 290133	A2	19881109	EP 1988-302778	19880329
	EP 290133	A3	19900502		
	EP 290133	B1	19981028		
	R: CH, DE, FR, GB, IT, LI, SE				
	CA 1323949	A1	19931102	CA 1988-562679	19880328
	BR 8801531	A	19881108	BR 1988-1531	19880330
	JP 63273602	A2	19881110	JP 1988-81169	19880401
	JP 2744789	B2	19980428		
	US 5545676	A	19960813	US 1994-365494	19941228
	US 6017660	A	20000125	US 1998-94184	19980609
PRAI	US 1987-34065		19870402		
	US 1992-840880		19920225		
	US 1994-365494		19941228		
	US 1996-695566		19960812		

OS MARPAT 110:115927

AB The title compns., with good cure speed, cure depth, and shelf life, comprise radically polymerizable monomers and a photoinitiator system contg. aryliodonium salts, photosensitizers [absorbing in the range 300-1000 nm and sensitizing 2-methyl-4,6-bis(trichloromethyl)-s-triazine], and electron donors with oxidn. potential (Eox) such that $0 < E_{ox} .ltoreq. 1.32$ (V, vs. SCE). A mixt. of 11.85 parts each triethylene glycol dimethacrylate and bisphenol A diglycidyl ether dimethacrylate, 76 parts filler, and 0.25 part each camphorquinone (I), Ph₂I+PF₆⁻ (II), and (dimethylamino)phenethyl alc. (III) was poured in a mold to 6 mm depth and cured 20 s with visible light, giving a composite with Barcol hardness 60 (top) and 30 (bottom), vs. no cure with I and II only and 56 and 2, resp., with I and III only.

ST photoinitiator unsatd monomer compn; aryliodonium salt photoinitiator system; sensitizer ternary photoinitiator system; electron donor photoinitiator system; camphorquinone photosensitizer photoinitiator system; dental adhesive photocurable compn

IT Dyes
 (photosensitizers, ternary **photoinitiator** systems contg., for photocurable monomer compns.)

IT Electron donors
 (ternary **photoinitiator** systems contg., for photocurable monomer compns.)

IT Dental materials and appliances
 (adhesives, photopolymerizable, ternary **photoinitiator** systems for)

IT Dental materials and appliances
 (orthodontic brackets, photocurable adhesives for, ternary **photoinitiator** systems in)

IT Polymerization catalysts
 (photochem., aryliodonium salt-photosensitizer-electron donor, monomer compns. contg.)

IT Polymerization
 (photochem., of monomer compns. contg. diphenyliodonium salt and photosensitizer and electron donor)

IT 50-81-7, L-Ascorbic acid, uses and miscellaneous 62-53-3, Aniline, uses and miscellaneous 99-97-8, N,N-Dimethyl-p-toluidine 100-10-7, p-(Dimethylamino)benzaldehyde 102-54-5, Ferrocene 102-71-6, Triethanolamine, uses and miscellaneous 103-83-3 107-10-8, Propylamine, uses and miscellaneous 109-46-6, 1,3-Dibutylthiourea 122-79-2, Phenyl acetate 127-19-5 135-77-3, 1,2,4-Trimethoxybenzene 150-78-7, p-Dimethoxybenzene 594-07-0, Carbamodithioic acid 603-34-9,

Triphenylamine 603-35-0, Triphenylphosphine, uses and miscellaneous
632-22-4, Tetramethylurea 680-31-9, Hexamethylphosphoramide, uses and
miscellaneous 824-79-3, Sodium p-toluenesulfinate 2050-92-2,
Dipentylamine 2422-89-1, Tetrabutylthiourea 4441-17-2,
Tripiperidinophosphine oxide 4840-75-9, Tris(dimethylamino)phenylsilane
13368-42-8 13408-63-4, Ferrocyanide 21331-86-2, Trisdimethylsilylamine
33985-71-6, 9-Julolidinecarboxaldehyde 50438-75-0
RL: USES (Uses)
(electron donor, ternary **photoinitiator** systems contg., for
photocurable monomer compns.)

IT 92899-80-4P
RL: PREP (Preparation)
(manuf. of, as binder for abrasive, ternary **photoinitiator**
systems for)

IT 108-30-5DP, reaction products with hydroxyethyl methacrylate and
polycaprolactone hexaol and TDI, polymers with pentaerythritol
tetraacrylate 584-84-9DP; reaction products with hydroxyethyl
methacrylate and polycaprolactone hexaol and succinic anhydride, polymers
with pentaerythritol tetraacrylate 868-77-9DP, reaction products with
polycaprolactone hexaol and succinic anhydride and TDI, polymers with
pentaerythritol tetraacrylate 4986-89-4DP, polymers with urethane
oligomers 25034-58-6P, Acrylamide-N,N'-methylenebisacrylamide copolymer
26426-05-1P 57592-66-2P, Pentaerythritol tetraacrylate homopolymer
79469-03-7DP, reaction products with hydroxyethyl methacrylate and
succinic anhydride and TDI, polymers with pentaerythritol tetraacrylate
119176-65-7P, 1,4-Butanediol dimethacrylate-trimethylolpropane
trimethacrylate copolymer
RL: PREP (Preparation)
(manuf. of, ternary **photoinitiator** systems for)

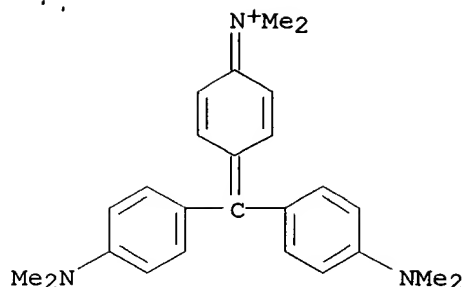
IT 61-73-4, Methylene blue 81-93-6, Phenosafranine 82-38-2,
1-Methylaminoanthraquinone 86-39-5, 2-Chlorothioxanthone 90-94-8,
Michler's ketone 465-29-2, Camphorquinone **548-62-9**, Crystal
violet **569-64-2**, Malachite green 581-64-6, Thionin
1742-91-2, 3,3'-Dimethylthiocarbocyanine iodide 2321-07-5, Fluorescein
3785-05-5, 2,6-Bis[4-(Dimethylamino)styryl]-1-methylpyridinium iodide
6552-62-1 6673-14-9, 1,3-Bis(4-Dimethylaminobenzylidene)acetone
6673-15-0, 1,2,2-Tricyano-1-(4-dimethylaminophenyl)ethylene 11121-48-5,
Rose Bengal 14323-06-9 21856-78-0 37251-80-2, Toluidine blue
50721-69-2 51395-88-1, Eosin yellow 55804-66-5 55804-67-6
72955-45-4 77831-38-0 119233-95-3, 3-(p-Dimethylaminocinnamoyl)-7-
(dimethylamino)coumarin 119233-96-4 119233-97-5 119233-98-6
119233-99-7 119259-88-0
RL: USES (Uses)
(photosensitizer, ternary **photoinitiator** systems contg., for
photocurable monomer compns.)

IT 119408-82-1
RL: USES (Uses)
(polyester cloth impregnated with photocured, as substrate for
abrasive)

IT 58109-40-3, Diphenyliodonium hexafluorophosphate
RL: USES (Uses)
(ternary **photoinitiator** systems contg., for photocurable
monomer compns.)

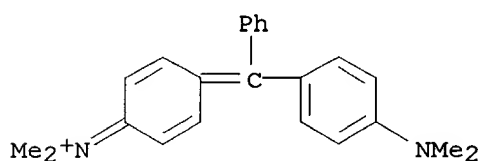
IT **548-62-9**, Crystal violet **569-64-2**, Malachite green
RL: USES (Uses)
(photosensitizer, ternary **photoinitiator** systems contg., for
photocurable monomer compns.)

RN 548-62-9 HCAPLUS
CN Methanaminium, N-[4-[bis[4-(dimethylamino)phenyl]methylene]-2,5-
cyclohexadien-1-ylidene]-N-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

RN 569-64-2 HCAPLUS
 CN Methanaminium, N-[4-[[4-(dimethylamino)phenyl]phenylmethylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

L10 ANSWER 35 OF 54 HCAPLUS COPYRIGHT 2000 ACS
 AN 1988:601486 HCAPLUS
 DN 109:201486
 TI Solvent-developable photoresist composition
 IN Kempf, Richard Joseph
 PA du Pont de Nemours, E. I., and Co., USA
 SO Eur. Pat. Appl., 15 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 IC ICM G03F007-10
 ICS G03C001-68
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 Section cross-reference(s): 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 237985	A2	19870923	EP 1987-103690	19870313
	EP 237985	A3	19881012		
	EP 237985	B1	19930609		
	R: BE, CH, DE, FR, GB, IT, LI, NL				
	US 4716093	A	19871229	US 1986-839973	19860317
	JP 62226144	A2	19871005	JP 1987-59118	19870316
	BR 8701191	A	19880105	BR 1987-1191	19870316

PRAI US 1986-839973 19860317

AB A solvent-developable photoresist compn. for the fabrication of a printed circuit board is comprised of .gtoreq.1 nongaseous ethylenically unsatd. compd. having a b.p. >100.degree. and being capable of forming a high polymer by photoinitiated addn. polymn., a photoinitiating system, and a preformed macromol. binder sol. in methylchloroform at 22.degree. and in a time .ltoreq.24 h and prepd. from monomers comprising Me methacrylate and

C2-4 alkyl methacrylates. A 0.002 in. thick photoresist layer prep'd. from the above compn., laminated on a Cu substrate, and imagewise exposed to actinic radiation meets .gtoreq.1 of the following conditions: (a) a time to clear of .ltoreq.26 s when the imagewise-exposed photoresist layer is passed at a transport speed of 4.5 ft/min through a spray of Me chloroform at 65.degree. and 20 psi (gauge) whereby all the unexposed photoresist layer is removed from the substrate and (b) a time to strip of the exposed photoresist layer of .ltoreq.9.5 s when the exposed photoresist layer is passed at a transport speed of 10 ft/min through a spray of a soln. contg. CH2Cl2 93 and MeOH 6 parts at 65.degree. and 21 psi (gauge) whereby all exposed photoresist layer is removed from the substrate. Thus, a compn. comprised of trimethylolpropane ethoxylated triacrylate, benzophenone, Et Michler's ketone, 4-methyl-4-trichloromethylcyclohexadiene-1-one, 5-chlorobenzotriazole, victoria green, victoria blue, p-toluenesulfonic acid, leuco crystal violet, o-toluenesulfonamide, p-toluenesulfonamide, tris(4-diethylamino-2-tolyl)methane, a condensation polymer of hydantoin, HCHO, and o- and p-toluenesulfonamide formulated with phthalic anhydride, Et acrylate-Me methacrylate copolymer, propylene glycol Me ether, and CH2Cl2 was coated on a poly(ethylene terephthalate) support, dried, laminated to a Cu-clad circuit board substrate, exposed through a stepwedge, and developed in 1,1,1-trichloroethane to show a cleaning time of 28.7 s and a stripping time of 9.9 s.

ST solvent developable photoresist printed circuit
IT Resists
 (photo-, org. solvent-developable, photopolymerizable compns. contg. ethylenically unsatd. compd. and, **photoinitiating** system and Me methacrylate copolymer binder as)

IT Electric circuits
 (printed, org. solvent-developable photoresists contg. ethylenically unsatd. compd. and **photoinitiating** system and alkyl methacrylate copolymer binder for fabrication of)

IT 71-55-6
RL: USES (Uses)
 (developer, for photoresists contg. ethylenically unsatd. compd. and **photoinitiating** system and alkyl methacrylate copolymer binder for fabrication of printed elec. circuits)

IT 90-93-7
RL: USES (Uses)
 (photopolymerizable compns. contg. ethylenically unsatd. compd. and alkyl methacrylate copolymer binder and, as org. solvent-developable photoresist for fabrication of printed elec. circuits)

IT 119-61-9, Benzophenone, properties
RL: PRP (Properties)
 (photopolymerizable compns. contg. ethylenically unsatd. compd. and alkyl methacrylate copolymer binder and, as org. solvent-developable photoresist for fabrication of printed elec. circuits)

IT 70-55-3, p-Toluenesulfonamide 88-19-7, o-Toluenesulfonamide 94-97-3, 5-Chlorobenzotriazole 104-15-4, p-Toluenesulfonic acid, uses and miscellaneous **569-64-2**, Victoria green 603-48-5, Leuco crystal violet **2390-60-5** 3274-12-2 4482-70-6 115585-71-2
RL: USES (Uses)
 (photopolymerizable compns. contg. ethylenically unsatd. compd. and **photoinitiating** system and alkyl methacrylate copolymer binder and, as org. solvent-developable photoresists)

IT 9010-88-2, Methyl methacrylate-ethyl acrylate copolymer 25608-33-7, Methyl methacrylate-butyl methacrylate copolymer 25685-29-4, Methyl methacrylate-ethyl methacrylate copolymer 26044-94-0
RL: USES (Uses)
 (photopolymerizable compns. contg. ethylenically unsatd. compd. and **photoinitiating** system and, as org. solvent-developable photoresists)

IT 15625-89-5D, Trimethylolpropanetriacrylate, ethoxylated
RL: USES (Uses)
 (photopolymerizable compns. contg. **photoinitiating** system and alkyl methacrylate copolymer binder and, as org. solvent-developable photoresist for fabrication of printed elec. circuits)

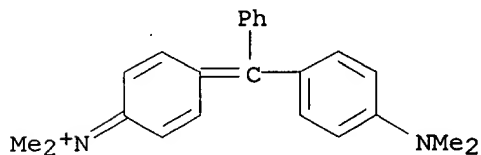
IT **569-64-2**, Victoria green **2390-60-5**

RL: USES (Uses)

(photopolymerizable compns. contg. ethylenically unsatd. compd. and
photoinitiating system and alkyl methacrylate copolymer binder
and, as org. solvent-developable photoresists)

RN 569-64-2 HCAPLUS

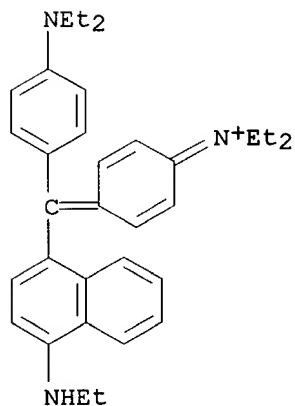
CN Methanaminium, N-[4-[[4-(dimethylamino)phenyl]phenylmethylene]-2,5-
cyclohexadien-1-ylidene]-N-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

RN 2390-60-5 HCAPLUS

CN Ethanaminium, N-[4-[[4-(diethylamino)phenyl][4-(ethylamino)-1-
naphthalenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-ethyl-, chloride
(9CI) (CA INDEX NAME)



● Cl⁻

L10 ANSWER 36 OF 54 HCAPLUS COPYRIGHT 2000 ACS

AN 1988:446236 HCAPLUS

DN 109:46236

TI Yellow light preexposure for increasing photospeed of photopolymerizable
composition

IN Weed, Gregory C.

PA du Pont de Nemours, E. I., and Co., USA

SO U.S., 6 pp.

CODEN: USXXAM

DT Patent

LA English

IC ICM G03C005-00

ICS G03C005-04

NCL 430327000

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other
Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4716097	A	19871229	US 1986-830509	19860203
	EP 284642	A2	19881005	EP 1987-104915	19870402
	EP 284642	A3	19900711		
	R: DE, FR, GB, IT, SE				
	JP 63262645	A2	19881028	JP 1987-88994	19870413
	BR 8701797	A	19881025	BR 1987-1797	19870414
	CN 87103298	A	19881116	CN 1987-103298	19870501
PRAI	US 1986-830509		19860203		

AB The photospeed of a photopolymerizable compn. comprised of an addn. polymerizable ethylenically unsatd. monomer, photoinitiators, and triarylmethane or xanthene dyes and used as a photoresist is increased by exposing the photopolymerizable to light at a wavelength longer than 400 nm and at an intensity of at least 1500 lm/m2 for a time sufficient to increase its photospeed. Thus, a photoresist compn. comprised of Me methacrylate-Et acrylate-methacrylic acid copolymer, Et p-dimethylaminobenzoate, poly(ethylene oxide), ethoxylated trimethylolpropane triacrylate, diarylated polyurethane, Michler's ketone, benzophenone, leuco crystal violet 4,4',4''-methylidyne tris-N,N-dimethylaniline, diethylhydroxylamine, 4-trichloromethyl-4-methylcyclohexadienone, victoria green, victoria blue, CH2Cl2, and MeOH was coated on a poly(ethylene terephthalate) support, dried, laminated to a poly(ethylene terephthalate) oversheet, exposed to Sylvania Gold fluorescent lamps at 27,000 lm/m2, and exposed to actinic radiation at 70 mJ/cm2 through a 6.sqroot.2 stouffer 41 stepwedge, the oversheet removed, and developed in aq. Na2CO3 to show a 1-12 step increase over a control contg. no victoria green and victoria blue.

ST photoresist sensitization yellow light preexposure; triarylmethane dye photoresist photospeed increase; xanthene dye photoresist photospeed increase

IT Photoimaging compositions and processes
(contg. polymerizable unsatd. monomer and **photoinitiators** and triarylmethane dyes, photospeed increase of, by preexposure with yellow light)

IT Resists
(photo-, contg. polymerizable unsatd. monomer and **photoinitiators** and triarylmethane dyes, photospeed increase of, by preexposure with yellow light)

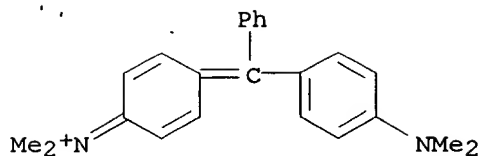
IT 15625-89-5D, ethoxylated
RL: USES (Uses)
(photopolymerizable compns. contg. **photoinitiators** and triarylmethane dyes and, photospeed increase of, by preexposure with yellow light)

IT 81-88-9 90-94-8, Michler's ketone 119-61-9, Benzophenone, properties 569-64-2, Victoria Green 603-48-5 2390-60-5 3274-12-2 3710-84-7, Diethylhydroxylamine 10287-53-3, Ethyl p-dimethylaminobenzoate 25133-97-5, Methylmethacrylate-ethylacrylate-methacrylic acid copolymer
RL: USES (Uses)
(photopolymerizable compns. contg. unsatd. monomer and **photoinitiators** and triarylmethane dyes and, photospeed increase of, by preexposure with yellow light)

IT 569-64-2, Victoria Green 2390-60-5
RL: USES (Uses)
(photopolymerizable compns. contg. unsatd. monomer and **photoinitiators** and triarylmethane dyes and, photospeed increase of, by preexposure with yellow light)

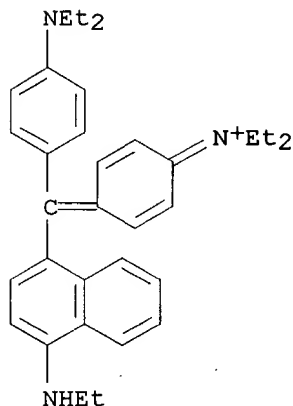
RN 569-64-2 HCAPLUS

CN Methanaminium, N-[4-[[4-(dimethylamino)phenyl]phenylmethylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

RN 2390-60-5 HCAPLUS
 CN Ethanaminium, N-[[4-[[4-(diethylamino)phenyl][4-(ethylamino)-1-naphthalenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-ethyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

L10 ANSWER 37 OF 54 HCAPLUS COPYRIGHT 2000 ACS
 AN 1987:565519 HCAPLUS
 DN 107:165519
 TI Dry-film photoresist for printed circuit fabrication
 IN Hayashi, Shunichi; Omote, Toshihiko; Yamamura, Takashi; Ishibashi, Masaru
 PA Nitto Electric Industrial Co., Ltd., Japan
 SO Jpn. Kokai Tokyo Koho, 7 pp.
 CODEN: JKXXAF

DT Patent
 LA Japanese
 IC ICM G03C001-68
 ICS G03C005-24; G03F001-00; H05K003-00
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 61273536	A2	19861203	JP 1985-116043	19850529
AB	The title photoresist is comprised of a transparent support and a photopolymer layer containing a film-forming polymer, a photopolymer ethylenically unsaturated compound, and a photoinitiator. The manufacture of printed circuits using the materials involves patternwise exposure of the material from the support side, with its polymer layer in contact with the substrate, peeling off to leave the resist pattern, etching, plating, and removal of the resist layer using an aqueous alkali solution. The processing is simple, nonpolluting, and economical. Thus, a PET film was coated with a 25-μm layer containing Superchlon CPE-907-LTA (chlorinated polyethylene) 70,				

Dianal BR-80 (PMMA) 30, Aronix M-6300 (oligoester acrylate) 90, 2-hydroxyethyl hydrogen phthalate 50, diethylthioxanthone 3, isoamyl dimethylaminobenzoate 3, p-methoxyphenol 0.1, tribromomethyl Ph sulfone 1, and crystal violet 0.2 part. The obtained film was placed upon a Cu-clad glass-epoxy resin laminate, pressed at 50.degree., with the coated layer inside, and exposed to UV through a photomask. Peeling off the PET film at 30.degree. left only the exposed part of the Cu surface. The exposed Cu surface was etched with aq. FeCl₃. Immersion in 3% NaOH for 5 min at 50.degree. removed the resist layer, leaving a printed circuit.

ST printed circuit peel off photoresist; dry film photoresist printed circuit; resist photopolymer peel off development

IT Rubber, chlorinated

RL: USES (Uses)
(dry-film peeling-developable photoresists contg., for printed elec. circuit fabrication)

IT Resists
(photo-, dry-film, peeling-developable, contg. film-forming polymer and polymerizable monomer and **photoinitiator**)

IT Electric circuits
(printed, peeling-developable photoresist compns. contg. film-forming polymer and polymerizable monomer and **photoinitiator** for fabrication of)

IT 119-61-9, Benzophenone, uses and miscellaneous 150-76-5, p-Methoxyphenol 548-62-9, Crystal violet 3524-68-3, Pentaerythritol triacrylate 9002-88-4D, Polyethylene, chlorinated 9011-14-7, Dianal BR-80 9011-87-4, Dianal BR-75 17025-47-7, Tribromomethyl phenyl sulfone 17689-42-8, 2-Hydroxyethyl hydrogen phthalate 50940-49-3 62886-88-8, Aronix M-6300 62887-18-7 65722-01-2, Victoria Pure Blue 71328-95-5 82612-95-1 100752-97-4

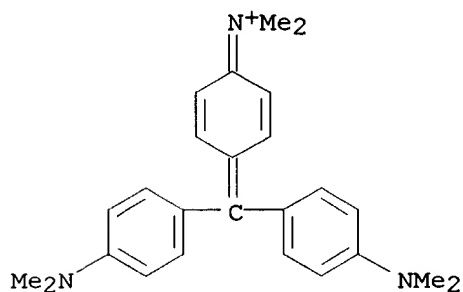
RL: USES (Uses)
(dry-film peeling-developable photoresists contg., for printed elec. circuit fabrication)

IT 548-62-9, Crystal violet

RL: USES (Uses)
(dry-film peeling-developable photoresists contg., for printed elec. circuit fabrication)

RN 548-62-9 HCAPLUS

CN Methanaminium, N-[4-[bis[4-(dimethylamino)phenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, chloride (9CI) (CA INDEX NAME)



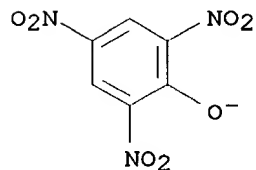
● Cl⁻

L10 ANSWER 38 OF 54 HCAPLUS COPYRIGHT 2000 ACS
AN 1987:544797 HCAPLUS
DN 107:144797
TI Organic photoconductors in electrophotographic microprocesses
AU Markiewicz, N.; Pietsch, H.; Bilke, W. D.; Post, M.
CS Fotochem. Komb., VEB Filmfabr. Wolfen, Wolfen, DDR-4440, Ger. Dem. Rep.
SO Acta Polym. (1987), 38(6), 347-53
CODEN: ACPODY; ISSN: 0323-7648

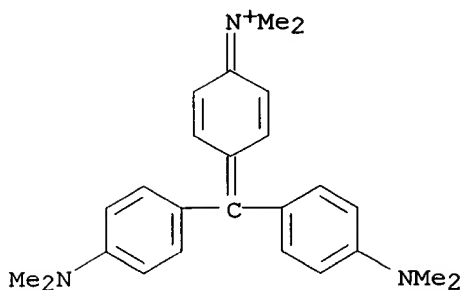
DT Journal
 LA German
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 AB The sensitometric properties of electrophotog. microfiche masters are described with respect to their suitability for updating of recorded information on the file film, esp. with regard to single frame or full size processing of the microfiche in a camera with charging, developing and fixing units. In this connection, possible photochem. reactions in epoxyarylamine addn. polymers are discussed, too, and some aspects of the raising in sensitivity due to reactions of directly produced species in fluid or solid layers are presented.
 ST electrophotog org photoconductor microfiche master
 IT Electrophotographic photoconductors
 (org., for microprocesses, photochem. reactions of epoxy-arylamine addn. polymers in relation to)
 IT Photolysis
 (flash, of polymeric adduct of dibenzylldiaminodiphenylmethane with bisphenol A-diglycidyl ether, electrophotog. microprocessing in relation to)
 IT Microfilms
 (microfiche, electrophotog., org. photoconductors in)
 IT 77125-26-9
 RL: RCT (Reactant)
 (photochem. of, electrophotog. microprocesses in relation to)
 IT 32287-60-8, Crystal violet picrate
 RL: USES (Uses)
 (photoinitiator, in photolysis of dibenzylldiaminodiphenylmethane polyadduct with bisphenol A-diglycidyl ether adduct, electrophotog. microprocessing in relation to)
 IT 558-13-4, Carbon tetrabromide
 RL: USES (Uses)
 (spectral and electrophotog. properties of films of dibenzylldiaminodiphenylmethane-bisphenol A-diglycidyl ether copolymer contg.)
 IT 67-66-3, Chloroform, properties
 RL: PRP (Properties)
 (spectral properties of polymeric adduct of dibenzylldiaminodiphenylmethane with bisphenol A-diglycidyl ether adduct, electrophotog. microprocessing in relation to)
 IT 32287-60-8, Crystal violet picrate
 RL: USES (Uses)
 (photoinitiator, in photolysis of dibenzylldiaminodiphenylmethane polyadduct with bisphenol A-diglycidyl ether adduct, electrophotog. microprocessing in relation to)
 RN 32287-60-8 HCAPLUS
 CN Methanaminium, N-[4-[bis[4-(dimethylamino)phenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, salt with 2,4,6-trinitrophenol (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 14798-26-6
 CMF C6 H2 N3 O7



CM 2



L10 ANSWER 39 OF 54 HCAPLUS COPYRIGHT 2000 ACS

AN 1987:76148 HCAPLUS

DN 106:76148

TI Partial neutralization of an aqueous developable photoresist

IN Briney, Gary Clark; Foreman, Thomas Kevin

PA du Pont de Nemours, E. I., and Co., USA

SO Eur. Pat. Appl., 12 pp.

CODEN: EPXXDW

DT Patent

LA English

IC ICM G03C001-68

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 198392	A1	19861022	EP 1986-104781	19860408
	R: DE, GB				
	JP 61236538	A2	19861021	JP 1986-80279	19860409
PRAI	US 1985-721644		19850410		

AB A photoresist for printed circuit board fabrication consists of a supported compn. contg. an ethylenically unsatd. monomer, a photoinitiator and a partially neutralized carboxylic acid binder. Thus, a 34% solids compn. in 93% CH₂Cl₂-7% MeOH solvent contg. Me methacrylate-Et acrylate-acrylic acid copolymer (mol. wt. 42,000, acid no. 80) 43.2, Me methacrylate-Et acrylate-acrylic acid copolymer (mol. wt. 200,000, acid no. 100) 23.3, triethylamine 2.1, 5-chlorobenzotriazole 0.3, o-Cl-HABI 2.2, leuco crystal violet 0.2, tricresyl phosphate 0.8, Michler ketone 0.2, diethylhydroxylamine 0.2, trimethylolpropane triacrylate 25.8, 80% Cu phthalocyanine dispersion in 20% trimethylolpropane 1.5, 2-mercaptobenzoxazole 0.3 wt.% was coated on a polyester support, laminated to a Cu board, imagewise exposed and developed in aq. Na₂CO₃ at 41.degree.. The time to clear (development time) was 41 s and the time to strip (using 1.5% KOH at 68.degree.) was 49 s.

ST photoresist printed circuit carboxylic binder

IT Resists

(photo-, contg. ethylenically unsatd. monomer and **photoinitiator** and partially neutralized carboxylic acid binder)

IT Electric circuits

(printed, aq. developable photoresist for fabrication of, contg. partially neutralized carboxylic acid binder)

IT 25135-39-1, Acrylic acid-ethylacrylate-methyl methacrylate copolymer

RL: USES. (Uses)

(photolysis compn. for printed circuit fabrication contg., partial neutralization of)

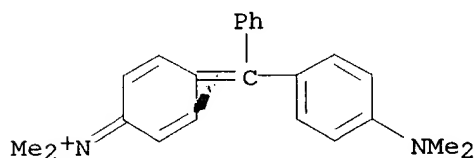
IT 111-51-3

RL: TEM (Technical or engineered material use); USES (Uses)

(photoresist compn. contg.)

IT 102-71-6, Triethanolamine, uses and miscellaneous 110-18-9 111-18-2

121-44-8, uses and miscellaneous
 RL: USES (Uses)
 (photoresist compn. for printed circuit fabrication contg. carboxylic acid binder and)
 IT 90-94-8 94-97-3, 5-Chlorobenzotriazole 105-16-8, N,N-Diethylamino ethyl methacrylate 115-70-8 119-61-9, Benzophenone, uses and miscellaneous 140-07-8 **569-64-2**, Victoria green 603-48-5 631-61-8, Ammonium acetate 1310-58-3, Potassium hydroxide, uses and miscellaneous 1310-73-2, Sodium hydroxide, uses and miscellaneous 1330-78-5, Tricresyl phosphate 2426-54-2 2439-35-2 3710-84-7, Diethylhydroxylamine 15625-89-5
 RL: USES (Uses)
 (photoresist compn. for printed circuit fabrication contg. partially neutralized carboxylic acid binder and)
 IT 121-69-7, uses and miscellaneous
 RL: USES (Uses)
 (photoresist contg.)
 IT **569-64-2**, Victoria green
 RL: USES (Uses)
 (photoresist compn. for printed circuit fabrication contg. partially neutralized carboxylic acid binder and)
 RN 569-64-2 HCAPLUS
 CN Methanaminium, N-[4-[[4-(dimethylamino)phenyl]phenylmethylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

L10 ANSWER 40 OF 54 HCAPLUS COPYRIGHT 2000 ACS
 AN 1986:139332 HCAPLUS
 DN 104:139332
 TI Materials for pattern formation
 IN Hayashi, Shunichi; Yamamura, Takashi
 PA Nitto Electric Industrial Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF

DT Patent
 LA Japanese
 IC ICM G03C001-68
 ICS C08G059-40; C08G059-50; C08G059-68; G03C001-00
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 60207136	A2	19851018	JP 1984-64219	19840331
AB	Transparent substrates are coated with a photosensitive layer essentially contg. a compd. having .gtoreq.1 photopolymerizable C-C double bond, a binder contg. a halogen-contg. polymer, a photopolymn. initiator contg. an acrylic amine, and a compd. having .gtoreq.1 epoxy group to give materials for pattern formation. The materials exhibit high photosensitivity and excellent storage stability. Thus, a soln. of pentaerythritol triacrylate 70, oligoester acrylate (Aronix M-6300) 70, chlorinated polyethylene (Superchlon CPE 907 HA; Cl content 66%; wt. av. mol. wt. .apprx.160,000) 30, poly(Me methacrylate) (Dianal BR-75) 70, benzophenone 7.5, 4,4'-bis(diethylamino)benzophenone 0.6, ethylene glycol diglycidyl ether				

1.0, p-methoxyphenol 0.1, tribromomethyl Ph sulfone 1.0, and crystal violet 0.1 in PhMe 400 parts was coated to 35 .mu.m (dry) on a 25-.mu.m transparent poly(ethylene terephthalate) film. The obtained material was laminated on a Cu-laminated print-circuit board and patternwise exposed to UV light. The pattern was developed by peeling off the film. The material had high photosensitivity, showing no decrease in sensitivity after storage at 50.degree. for 5 wk, whereas a material not contg. 4,4'-bis(diethylamino)benzophenone failed to sustain its photosensitivity even for 1 wk.

ST photoresist material acrylic amine photoinitiator
 IT Rubber, chlorinated
 RL: USES (Uses)
 (photoresist compns. with acyclic amine-contg. photopolymn. initiator and, dry-film, with improved photosensitivity and storage stability)

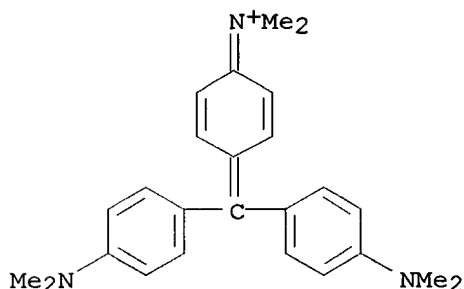
IT Resists
 (photo-, dry-film, with acyclic amine-contg. **photoinitiator** for improved sensitivity in storage stability)

IT 84-47-9 119-61-9, uses and miscellaneous 121-69-7, uses and miscellaneous 150-76-5 **548-62-9** 1680-21-3 2224-15-9 3524-68-3 9002-88-4D, chlorinated 17025-47-7 25068-38-6 62886-88-8 62886-89-9 62887-18-7 65722-01-2 66828-12-4 82799-44-8 95543-55-8 97622-55-4
 RL: USES (Uses)
 (photoresist compns. with acyclic amine-contg. photopolymn. initiator and, dry-film, with improved photosensitivity and storage stability)

IT 90-93-7 90-94-8
 RL: USES (Uses)
 (photoresist compns. with photopolymn. initiator compn. contg., dry-film, with improved photosensitivity in storage stability)

IT **548-62-9**
 RL: USES (Uses)
 (photoresist compns. with acyclic amine-contg. photopolymn. initiator and, dry-film, with improved photosensitivity and storage stability)

RN 548-62-9 HCAPLUS
 CN Methanaminium, N-[4-[bis[4-(dimethylamino)phenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, chloride (9CI) (CA INDEX NAME)



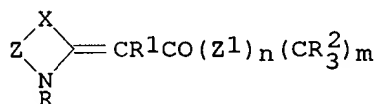
● Cl⁻

L10 ANSWER 41 OF 54 HCAPLUS COPYRIGHT 2000 ACS
 AN 1985:569903 HCAPLUS
 DN 103:169903
 TI Trihalomethyl group-containing carbonylmethyl heterocycles and photosensitive mixtures containing them
 IN Doenges, Reinhard; Ruckert, Hans; Geissler, Ulrich; Steppan, Hartmut
 PA Hoechst A.-G. , Fed. Rep. Ger.
 SO Ger. Offen., 46 pp.
 CODEN: GWXXBX
 DT Patent
 LA German

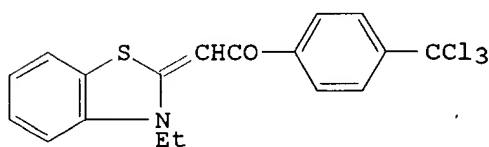
IC ICM C07D277-64
ICS C07D277-84; C07D209-10; C07D417-06; C07D413-06; C07D401-06;
C07D403-06; C08F002-50; G03C001-72; G03C001-68; G03F007-00
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other
Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3333450	A1	19850411	DE 1983-3333450	19830916
	EP 135863	A2	19850403	EP 1984-110533	19840905
	EP 135863	A3	19850515		
	R: AT, BE, CH, DE, FR, GB, IT, LI, NL, SE				
	ZA 8407165	A	19850424	ZA 1984-7165	19840912
	FI 8403594	A	19850317	FI 1984-3594	19840913
	FI 81786	B	19900831		
	FI 81786	C	19901210		
	US 4966828	A	19901030	US 1984-651116	19840913
	AU 8433067	A1	19850321	AU 1984-33067	19840914
	HU 37134	O	19851128	HU 1984-3474	19840914
	HU 193590	B	19871028		
	ES 535956	A1	19851201	ES 1984-535956	19840914
	CS 253715	B2	19871217	CS 1984-6926	19840914
	IL 72945	A1	19890515	IL 1984-72945	19840914
	JP 60089473	A2	19850520	JP 1984-192770	19840917
PRAI	DE 1983-3333450		19830916		
GI					



I



II

AB Trihalomethyl group-contg. carbonylmethylene heterocycles (I; R = alkyl, aralkyl, or alkoxyalkyl; R1 = H or CO(Z)nC(R2)3; R2 = Cl, Br, or I; Z = alkylene, alkenylene, or arylene; Z1 = a divalent arom. group; X = S, Se, O, dialkylmethylene, alken-1,2-ylene, 1,2-phenylenes, or NR; m = 1 or 2; n = 0 or 1), which upon exposure to light form HX and radicals, are used as photoinitiators in photosensitive compns. for use as photoresists, in the prodn. of printing plates and the like. Thus, a mech. grained Al plate was coated with a compn. contg. II 0.5, a polyacetal of triethylene glycol and 2-ethylbutyraldehyde 23.75, a cresol-HCHO novolak resin 75.0, 2-ethoxyethanol 24.25, and MeCOEt 375 parts, dried at 100.degree., step wedge exposed for 2 min, and developed with an aq. soln. to give 7 steps.

ST trihalomethylcarbonylmethyl heterocycle photoinitiator photoresist; printing plate photosensitive trihalomethylcarbonylmethylheterocycle

IT Photoimaging compositions and processes
(contg. monomers, copolymers, and trihalomethyl group-contg. carbonylmethylene heterocycle **photoinitiator**)

IT Lithographic plates
Printing plates
(photosensitive compns. contg. monomers, copolymers, and trihalomethyl group-contg. carbonylmethylene heterocycle **photoinitiator** for prepn. of)

IT Urethane polymers, uses and miscellaneous
RL: USES (Uses)
(photosensitive compns. contg. trihalomethyl group-contg.

carbonylmethylene heterocycle **photoinitiator** and, for photoresists and printing plates)

IT Resists
(photo-, trihalomethyl group-contg. carbonylmethyleneheterocycle **photoinitiators** for)

IT 97189-81-6 97189-88-3 97189-89-4 97189-93-0 98707-12-1
98707-13-2 98707-15-4 98707-16-5 98707-17-6 98707-19-8
98707-20-1 98707-21-2
RL: USES (Uses)
(photosensitive compns. contg. phenolic resins, copolymers and, for photoresists and printing plate prepn.)

IT 97-96-1D, acetal with 1,6-hexanediol 97-96-1D, acetal with triethylene glycol 110-80-5 112-27-6D, acetal with 2-ethyl-butylaldehyde 467-63-0 **569-64-2** 603-48-5 629-11-8D, acetal with 2-ethyl-butylaldehyde 9003-32-1 9016-83-5 15625-89-5 23807-28-5 25086-15-1 25721-76-0 28262-63-7 29570-58-9 41137-60-4 58601-54-0 60466-57-1 73539-63-6 81119-32-6 98726-98-8
RL: USES (Uses)
(photosensitive compns. contg. trihalomethyl group-contg. carbonylmethylene heterocycle **photoinitiator** and, for photoresists and printing plates)

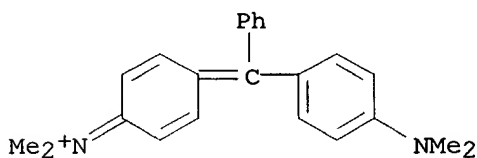
IT 118-12-7P 1042-84-8P 2654-52-6P 6734-20-9P 14933-76-7P
58480-17-4P 63149-07-5P 98707-14-3P 98707-18-7P 98707-23-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

IT 118-12-7
RL: RCT (Reactant)
(reaction of)

IT **569-64-2**
RL: USES (Uses)
(photosensitive compns. contg. trihalomethyl group-contg. carbonylmethylene heterocycle **photoinitiator** and, for photoresists and printing plates)

RN 569-64-2 HCAPLUS

CN Methanaminium, N-[4-[[4-(dimethylamino)phenyl]phenylmethylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

L10 ANSWER 42 OF 54 HCAPLUS COPYRIGHT 2000 ACS
AN 1985:569902 HCAPLUS
DN 103:169902
TI Photopolymerizable compositions
IN Iwasaki, Masayuki; Maeda, Minoru; Shinozaki, Fumiaki; Kawamura, Kouichi
PA Fuji Photo Film Co., Ltd. , Japan
SO Ger. Offen., 29 pp.
CODEN: GWXXBX
DT Patent
LA German
IC ICM G03C001-68
ICS G03F007-10; C08F002-50
CC 74-4 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
FAN.CNT 1
PATENT NO. KIND DATE APPLICATION NO. DATE

PI	DE 3503113	A1	19850801	DE 1985-3503113	19850130
	JP 60159742	A2	19850821	JP 1984-14819	19840130
	US 4548892	A	19851022	US 1985-696214	19850129

PRAI JP 1984-14819 19840130

AB A photopolymn. initiator which gives photopolymer images of high sensitivity, light fastness, and mech. stability suitable for smooth printing plates, resin printing, resists, and photomasks consists of RZC(R1R4)CONR2R3 (R = aryl; R1 = H, Cl, Br; R2,R3 = H, alkyl, aryl, aralkyl; R4 = Cl, Br; Z = CO, SO2). Thus, a film was prepd. contg. poly(Me methacrylate), tetraethylene glycol diacrylate, trimethylolpropane triacrylate, 4,4'-bis(diethylamino)benzophenone as initiator, leucocrystal violet, Victora Pure Blue BOH, p-toluenesulfonamide, p-methoxyphenol, and MeCOEt on polyethyleneterephthalate laminated with Cu. This film was exposed through a step wedge and developed in 1,1,1-trichloroethane to give a stable image showing high sensitivity.

ST photopolymerizable imaging photoresist printing

IT Printing plates
(photopolymerizable compn. for fabrication of)

IT Resists
(photo-, photopolymerizable compn. for)

IT Photoimaging compositions and processes
(photopolymerizable, contg. PMMA and acrylate derivs. and colorants)

IT 603-48-5 9011-14-7 15625-89-5 17831-71-9 **54066-28-3**
RL: USES (Uses)
(photopolymerizable imaging compn. contg.)

IT 86-39-5 90-93-7 90-94-8 119-61-9, uses and miscellaneous
14548-46-0 17025-47-7 29570-68-1 56185-23-0 76293-13-5
91528-47-1 98790-30-8 98790-31-9 98790-32-0
RL: USES (Uses)
(photopolymerizable imaging compn. contg., as **photoinitiator**)

IT 25086-15-1
RL: USES (Uses)
(photopolymerizable imaging compn. contg., **photoinitiator** for)

IT **54066-28-3**
RL: USES (Uses)
(photopolymerizable imaging compn. contg.)

RN 54066-28-3 HCAPLUS

L10 ANSWER 43 OF 54 HCAPLUS COPYRIGHT 2000 ACS

AN 1985:550986 HCAPLUS

DN 103:150986

TI Light-sensitive laminate

IN Ai, Hideo; Ikeda, Akihiko; Kaneko, Toshihide

PA Asahi Chemical Industry Co., Ltd., Japan

SO Ger. Offen., 34 pp.
CODEN: GWXXBX

DT Patent

LA German

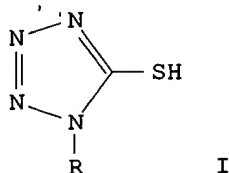
IC ICM G03C001-70
ICS G03F007-00

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	---	----	-----	-----
PI	DE 3446920	A1	19850711	DE 1984-3446920	19841221
	JP 60135931	A2	19850719	JP 1983-248966	19831224
PRAI	JP 1983-248966		19831224		

GI



- AB A photosensitive laminate for use as a dry-film photoresist or as a solder resist in the prodn. of printed circuits consists of a support and a photopolymerizable compn. comprised of an unsatd. compd. with .gtoreq.2 acryloyl or methacryloyl groups, a vinyl polymer, a photopolymer. initiator, and a 1-aryl-5-mercapto-1,2,3,4-tetrazole (I; R = C6-14 aryl or alkylaryl). Thus, a soln. contg. a product prepd. by the reaction of hexamethylene diisocyanate, polyethylene glycol, and 2-hydroxypropyl methacrylate 83, DELPET 70H 45, benzophenone 3, Michler's ketone 0.1, Basic Pure Blue BO 0.1, 1-phenyl-5-mercaptotetrazole 0.5, and MeCOEt 100 g was coated on a polyethylene film to give a 50 .mu.m resist film and then overcoated with a 25 .mu.m thick oriented polystyrene film to give a dry-film resist. When laminated to a Cu-clad glass-epoxy substrate at 90.degree. under pressure, the adhesion to the Cu surface was 1200 g/25 mm. Upon exposure to a mask with 200 .mu.m pos. lines at 1000 .mu.m intervals with a high-pressure Hg lamp (intensity 100 mJ/cm²) and development with 1,1,1-trichloroethane, a resist pattern was obtained.
- ST photoresist arylmercaptotetrazole acryloyl compd; vinyl polymer arylmercaptotetrazole photoresist
- IT Soldering
(masks for, photopolymerizable compns. contg. vinyl polymer, acryloyl compd., **photoinitiator** and arylmercaptotetrazole for prepn. of)
- IT Vinyl compounds, polymers
RL: PREP (Preparation)
(polymers, photoresist compns. contg. acryloyl compd., **photoinitiator**, arylmercaptotetrazole and, for printed elec. circuits and soldering mask prepn.)
- IT Resists
(photo-, contg. vinyl polymer, acryloyl compd., **photoinitiator** and arylmercaptotetrazole)
- IT Electric circuits
(printed, photoresist compns. contg. vinyl polymer, acryloyl compds., **photoinitiator** and arylmercaptotetrazole for prepn. of)
- IT 9011-14-7 80146-94-7 95567-24-1
RL: USES (Uses)
(photoresist compns. contg. acryloyl compd., **photoinitiator**, arylmercaptotetrazole and, for printed elec. circuit and soldering mask prepn.)
- IT 90-94-8 119-61-9, uses and miscellaneous
RL: USES (Uses)
(photoresist compns. contg. vinyl polymer, acryloyl compd., arylmercaptotetrazole and, for printed elec. circuit and soldering mask prepn.)
- IT 86-93-1 13183-79-4 13980-77-3 14331-22-7 41401-38-1
RL: USES (Uses)
(photoresist compns. contg. vinyl polymer, acryloyl compd., **photoinitiator** and, for printed elec. circuit and soldering mask prepn.)
- IT 633-03-4 2390-60-5 38605-72-0 63912-42-5
74315-89-2 88004-52-8
RL: USES (Uses)
(photoresist compns. contg. vinyl polymer, acryloyl compd., **photoinitiator**, arylmercaptotetrazole and, for printed elec. circuit and soldering mask prepn.)
- IT 110-82-7D, reaction product with polyethylene glycol and hydroxypropyl methacrylate 868-77-9 923-26-2D, reaction product with hexamethylene diisocyanate and polyethylene glycol 15625-89-5 17831-71-9 25322-68-3D, reaction product with hexamethylene diisocyanate and

hydroxypropyl methacrylate

RL: USES (Uses)

(photoresist compns. contg. vinyl polymer, **photoinitiator**, arylmercaptotetrazole and, for printed elec. circuit and soldering mask prepn.)

IT 633-03-4 2390-60-5

RL: USES (Uses)

(photoresist compns. contg. vinyl polymer, acryloyl compd., **photoinitiator**, arylmercaptotetrazole and, for printed elec. circuit and soldering mask prepn.)

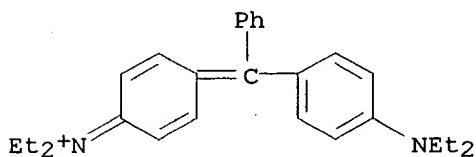
RN 633-03-4 HCAPLUS

CN Ethanaminium, N-[4-[[4-(diethylamino)phenyl]phenylmethylene]-2,5-cyclohexadien-1-ylidene]-N-ethyl-, sulfate (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 18198-35-1

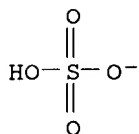
CMF C27 H33 N2



CM 2

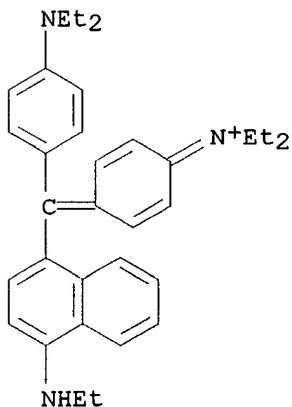
CRN 14996-02-2

CMF H O4 S

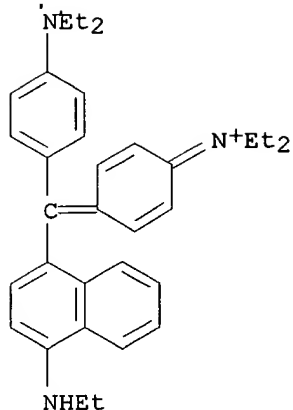


RN 2390-60-5 HCAPLUS

CN Ethanaminium, N-[4-[[4-(diethylamino)phenyl][4-(ethylamino)-1-naphthalenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-ethyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻



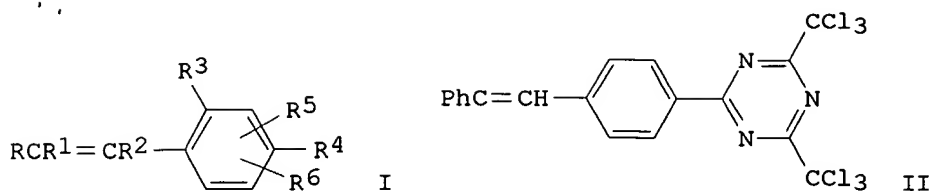
● Cl⁻

L10 ANSWER 44 OF 54 HCAPLUS COPYRIGHT 2000 ACS
 AN 1985:496424 HCAPLUS
 DN 103:96424
 TI Photosensitive trichloromethyl group-containing compounds
 IN Buhr, Gerhard
 PA Hoechst A.-G. , Fed. Rep. Ger.
 SO Ger. Offen., 44 pp.
 CODEN: GWXXBX
 DT Patent
 LA German
 IC ICM C07D251-16
 ICS G03C001-68
 CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

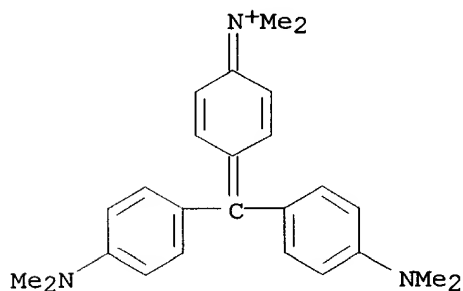
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3337024	A1	19850425	DE 1983-3337024	19831012
	IL 73112	A1	19881031	IL 1984-73112	19840926
	EP 137452	A1	19850417	EP 1984-111892	19841004
	EP 137452	B1	19890913		
	R: AT, BE, CH, DE, FR, GB, IT, LI, NL, SE				
	AT 46333	E	19890915	AT 1984-111892	19841004
	CA 1255669	A1	19890613	CA 1984-464814	19841005
	FI 8403978	A	19850413	FI 1984-3978	19841010
	ES 536668	A1	19851216	ES 1984-536668	19841010
	ZA 8407940	A	19850529	ZA 1984-7940	19841011
	JP 60105667	A2	19850611	JP 1984-211600	19841011
	JP 05044459	B4	19930706		
	BR 8405160	A	19850827	BR 1984-5160	19841011
	HU 37409	A2	19851228	HU 1984-3816	19841011
	CS 249527	B2	19870312	CS 1984-7727	19841011
	AU 8434204	A1	19850418	AU 1984-34204	19841012
	AU 571589	B2	19880421		
	US 4619998	A	19861028	US 1984-660098	19841012
	US 4696888	A	19870929	US 1986-890537	19860730
	JP 06065218	A2	19940308	JP 1993-2448	19930111
	JP 06053734	B4	19940720		
PRAI	DE 1983-3337024		19831012		
	EP 1984-111892		19841004		
	US 1984-660098		19841012		

GI



- AB Photosensitive compds. of the formula I (R = a 1-3 nucleus arom. group; R1, R2 = H or alkyl; R3, R4 = H or 4,6-bistrichloromethyl-s-triazin-2-yl; R5, R6 = H, halogen, alkyl, alkenyl, or alkoxy) are described for use as photoinitiators for radical polymn. or as a photolytic acid donors for acid cleavable compds., and for crosslinking or color forming reactions. The compds. show a high sensitivity in various spectral regions. Thus, an electrochem. roughened and anodized Al plate, which was treated with a 0.1% aq. soln. of poly(vinylphosphoric acid), was coated with a soln. contg. a HCHO-cresol polymer 6.63, a polymeric ortho ester prepd. by condensation of tri-Me orthoformate with 4-oxa-6,6-bis(hydroxymethyl)octan-1-ol 1.99, II 0.33, crystal violet base 0.05, ethylene glycol mono-Me ether 30, THF 52, and BuOAc 9 parts to give a 2.0 .mu.m (dry) layer. The resultant material was then exposed through an original, that contained besides line and screen motifs a halftone step wedge with 13 steps of optical d. 0.15, to a metal halide lamp at 110 cm for 15 s and after a waiting period of 10 min was developed for 1 min with a compn. with an aq. alk. compn. to give offset printing plate capable of producing >140,000 unobjectionable copies.
- ST photoinitiator photopolymer offset printing plate; chloromethyl group photoinitiator printing plate; lithog printing plate photopolymer; electron sensitive compn photoinitiator
- IT Photoimaging compositions and processes
(photopolymer, trichloromethyl group-contg. compds. and **photoinitiators** in)
- IT Epoxy resins, uses and miscellaneous
Phenolic resins, uses and miscellaneous
RL: USES (Uses)
(photosensitive compns. contg. trichloromethyl group-contg. compds. as **photoinitiator** and, for offset lithog. plate fabrication)
- IT Lithographic plates
(offset, photosensitive compns. contg. trichloromethyl group-contg. compds. as **photoinitiators** in fabrication of)
- IT Resists
(photo-, trichloromethyl group-contg. compds. as **photoinitiators** in)
- IT 109-63-7 7446-70-0, uses and miscellaneous 7727-15-3
RL: USES (Uses)
(Friedel-Crafts reaction catalyst)
- IT 545-06-2
RL: RCT (Reactant)
(Friedel-Crafts reaction of, with stilbenecarbonitrile)
- IT 64523-73-5
RL: USES (Uses)
(electron-beam sensitive compns. contg. trichloromethyl group-contg. compd. as **photoinitiator** and)
- IT 97802-70-5 97802-77-2 97802-78-3
RL: USES (Uses)
(**photoinitiator**, in electron-beam sensitive compns. for offset lithog. plate fabrication)
- IT 97802-67-0 97802-69-2 97802-71-6 97802-72-7 97802-73-8
97802-74-9 97802-75-0 97802-80-7 97802-81-8 97802-82-9
97802-83-0 97802-84-1
RL: USES (Uses)
(**photoinitiator**, in photosensitive compn. for offset lithog. plate fabrication)
- IT 9003-09-2
RL: USES (Uses)

(photoresist compn. contg. trichloromethyl group-contg. compd. as
photoinitiator and, pos.-working)
IT 109-16-0 111-29-5D, acetal with 2-ethylhexanal 123-05-7D, acetal with
1,5-pentanediol 41137-60-4 58601-54-0
RL: USES (Uses)
(photoresist compns. contg. trichloromethyl group-contg. compd. as
photoinitiator and, neg.-working)
IT 97-96-1D, acetal with triethylene glycol 112-27-6D, acetal with
2-ethylbutyraldehyde 467-63-0 **548-62-9** 1484-13-5 1628-58-6
9016-83-5 19778-85-9 23807-28-5 24979-70-2 25068-38-6 25086-15-1
97746-56-0
RL: USES (Uses)
(photosensitive compns. contg. trichloromethyl group-contg. compds. as
photoinitiator and, for offset lithog. plate fabrication)
IT 24687-64-7
RL: USES (Uses)
(photosensitive compns. contg. trihalo group-contg. compds. as
photoinitiators and, for neg. color image prodn.)
IT 1552-58-5P
RL: RCT (Reactant); PREP (Preparation)
(prepn. and Friedel-Crafts reaction of, with trichloroacetonitrile)
IT 97802-66-9P 97802-68-1P 97802-76-1P 97802-79-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and **photoinitiator** applications of)
IT 97802-65-8
RL: RCT (Reactant)
(reaction of, with benzaldehyde)
IT 100-52-7, reactions
RL: RCT (Reactant)
(reaction of, with di-Et cyanophenylmethane phosphonate)
IT **548-62-9**
RL: USES (Uses)
(photosensitive compns. contg. trichloromethyl group-contg. compds. as
photoinitiator and, for offset lithog. plate fabrication)
RN 548-62-9 HCAPLUS
CN Methanaminium, N-[4-[bis[4-(dimethylamino)phenyl]methylene]-2,5-
cyclohexadien-1-ylidene]-N-methyl-, chloride (9CI) (CA INDEX NAME)

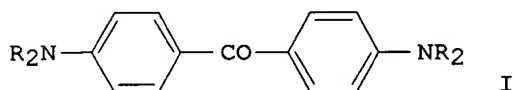


● Cl⁻

L10 ANSWER 45 OF 54 HCAPLUS COPYRIGHT 2000 ACS
AN 1985:414570 HCAPLUS
DN 103:14570
TI Photopolymerizable composition
PA Fuji Photo Film Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G03C001-00

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 60035725	A2	19850223	JP 1983-145293	19830809
GI					



AB A photopolymerizable compn. comprises an unsatd. compd. having .gtoreq.2 ethylenic double bonds capable of addn. polymn. and a combination of 3 kinds of photoinitiators: a 4,4'-bis(dialkylamino)benzophenone of the formula I (R = Cl-6 alkyl, cycloalkyl, hydroxyalkyl, or together may form a tetramethylene, pentamethylene, or oxybisethylene group), an arom. ketone, and an org. peroxide. The compn. provides a high-sensitivity imaging material producing a photohardened relief image suitable for lithog. or letterpress plates, photoresists, and photomasking materials for printed circuit fabrication. Thus, a soln. consisting of poly(Me methacrylate) (mol. wt. 140,000) 15, trimethylolpropanetriacrylate 2,4 tetraethylene glycol diacrylate 6.1, 4,4'-bis(diethylamino)benzophenone 0.04, benzophenone 0.15, di-tert-butyl diperoxyisophthalate 0.12, p-methoxyphenol 0.01, p-toluenesulfonamide 1.62, malachite green 0.015, and MeCOEt 45 g was coated on a poly(ethylene terephthalate) film with the thickness of 50 .mu.m. The photopolymn. imaging material had high sensitivity to UV and gave a relief image of good phys. strength.

ST amino benzophenone deriv photopolymer photoimaging photoinitiator; arom ketone photoinitiator photopolymn photoimaging; peroxide photoinitiator photopolymn photoimaging material; lithog plate photopolymer photoimaging material; photoresist photopolymer imaging material

IT Peroxides, uses and miscellaneous
 RL: USES (Uses)
 (photopolymerizable photoimaging compns. with **photoinitiator** combination contg. arom. ketone and bis(dialkylamino)benzophenone and)

IT Ketones, uses and miscellaneous
 RL: USES (Uses)
 (aryl, photopolymerizable photoimaging compns. with **photoinitiator** combination from bis(dialkylamino)benzophenone and org. peroxide and)

IT Resists
 (photo-, with **photoinitiator** combination contg. arom. ketone and bis(dialkylamino)benzophenone and org. peroxide)

IT Photoimaging compositions and processes
 (photopolymerizable, with **photoinitiator** combination contg. arom. ketone and (dialkylamino)benzophenone and org. peroxide)

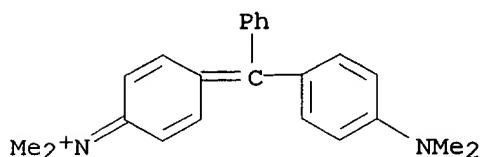
IT 80-43-3 1068-27-5 2618-77-1 3025-88-5 33943-20-3
 RL: USES (Uses)
 (photopolymerizable photoimaging compns. contg. **photoinitiator** combination from benzophenone and bis(diethylamino)benzophenone and)

IT 90-93-7
 RL: USES (Uses)
 (photopolymerizable photoimaging compns. contg. **photoinitiator** combination from benzophenone and org. peroxide and)

IT 119-61-9, properties
 RL: PRP (Properties)
 (photopolymerizable photoimaging compns. contg. **photoinitiator** combination from bis(diethylamino)benzophenone and org. peroxide and)

IT 70-55-3 150-76-5 569-64-2 9011-14-7 15625-89-5
 17831-71-9
 RL: USES (Uses)
 (photopolymerizable photoimaging compns. contg. **photoinitiators**

and)
 IT 569-64-2
 RL: USES (Uses)
 (photopolymerizable photoimaging compns. contg. photoinitiators
 and)
 RN 569-64-2 HCAPLUS
 CN Methanaminium, N-[4-[[4-(dimethylamino)phenyl]phenylmethylene]-2,5-
 cyclohexadien-1-ylidene]-N-methyl-, chloride (9CI) (CA INDEX NAME)



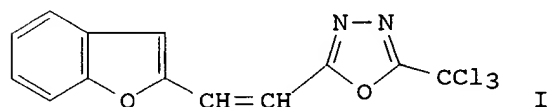
● Cl⁻

L10 ANSWER 46 OF 54 HCAPLUS COPYRIGHT 2000 ACS
 AN 1985:53998 HCAPLUS
 DN 102:53998
 TI Photosensitive composition
 IN Kita, Noriyasu; Goto, Kiyoshi
 PA Konishiroku Photo Industry Co., Ltd. , Japan
 SO Eur. Pat. Appl., 45 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 IC G03C001-72; G03F007-10; C07D413-04; C07D413-06
 ICI C07D413-04, C07D307-00, C07D271-00; C07D413-06, C07D307-00, C07D271-00
 CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other
 Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 118766	A2	19840919	EP 1984-101299	19840208
	EP 118766	A3	19860625		
	EP 118766	B1	19890104		
	R: DE, FR, GB				
	JP 59148784	A2	19840825	JP 1983-19689	19830210
	JP 63053992	B4	19881026		
	US 4840869	A	19890620	US 1987-83879	19870810
PRAI	JP 1983-19689		19830210		
	US 1984-578500		19840209		
	US 1986-867628		19860527		

GI



AB A highly sensitive photoimaging compn. useful for lithog. plate
 fabrication contains as a radical-producing compd. a 2-halomethyl-1,3,4-
 oxadiazole deriv. having a heterocyclic radical contg. .gtoreq.1 element
 selected from O, N, S, or Se. The compn. has excellent development
 characteristics and provides sharp and clear images. Thus, an Al plate
 whose surface was sand-blasted and subjected to an anodic oxidn. was

coated with a compn. contg. benzaldehyde-resorcinol copolymer
1,2-naphthoquinone-2-diazide-5-sulfonate 3, a cresol-novolak resin 12, I
0.09, glutaric anhydride 0.13, Victoria Pure Blue 0.12, crystal violet
0.03, and Me cellosolve 100 g, dried 4 min at 100.degree. (coating wt. of
a dry layer 2.4 g/m2), imagewise exposed 140 s to a 2 kW metal halide
lamp, and developed 45 s at 25.degree. in a 7-fold dild. developer compn.
consisting of Na silicate 134, NaOH 12 g, and H2O 890 mL to provide a
printing plate.

ST photoimaging compn halomethyloxadiazole lithog plate; oxadiazole radical
generator lithog plate; photoinitiator oxadiazole photopolymer lithog
plate

IT Photoimaging compositions and processes
(photoopolymer, contg. halomethyloxadiazoles as **photoinitiators**
)

IT Lithographic plates
(photosensitive compn. contg. halomethyloxadiazole derivs. as radical
producing compds. for fabrication of)

IT Polymerization catalysts
(photochem., halomethyloxadiazole compds. as)

IT 6834-92-0
RL: USES (Uses)
(developer compn. contg., for photoimaging compn. contg.
halomethyloxadiazole deriv., for lithog. plate fabrication)

IT 496-41-3 57329-40-5
RL: RCT (Reactant)
(esterification of)

IT 108-55-4 147-14-8 **548-62-9** 8004-87-3 56791-83-4
65722-01-2 72063-23-1 77347-95-6 94020-68-5
RL: USES (Uses)
(photoimaging compn. contg. halomethyloxadiazole deriv. as radical
generator and, for lithog. plate fabrication)

IT 93641-24-8 93641-25-9 93641-26-0
RL: USES (Uses)
(photoimaging compn. contg., for lithog. plate fabrication)

IT 93641-38-4P 93641-40-8P
RL: RCT (Reactant); PREP (Preparation)
(prepn. and dehydration of)

IT 50551-61-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and esterification of)

IT 42974-19-6P 93641-37-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and haloacetylation of)

IT 93641-27-1P 93641-28-2P 93641-29-3P 93641-30-6P 93641-31-7P
93641-32-8P 93641-33-9P 93641-34-0P 93641-35-1P 94363-87-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and photoimaging applications of)

IT 50963-54-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and reaction of, with benzenesulfonyl chloride)

IT 93641-36-2P 93641-39-5P 93641-41-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and reaction of, with hydrazine hydrate)

IT 50551-61-6P 93641-42-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

IT 673-22-3
RL: RCT (Reactant)
(reaction of, with Et bromomalonate)

IT 107-14-2
RL: RCT (Reactant)
(reaction of, with benzofurylacrylic acid)

IT 685-87-0
RL: RCT (Reactant)
(reaction of, with hydroxymethoxybenzaldehyde)

IT 7803-57-8
RL: RCT (Reactant)

(reactions of, with benzofurylacrylic acid esters)

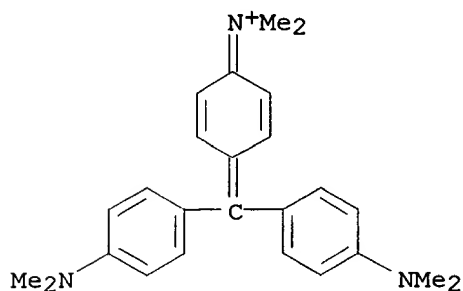
IT 548-62-9

RL: USES (Uses)

(photoimaging compn. contg. halomethyloxadiazole deriv. as radical generator and, for lithog. plate fabrication)

RN 548-62-9 HCAPLUS

CN Methanaminium, N-[4-[bis[4-(dimethylamino)phenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

L10 ANSWER 47 OF 54 HCAPLUS COPYRIGHT 2000 ACS

AN 1984:638170 HCAPLUS

DN 101:238170

TI Photopolymerizable composition

IN Iwasaki, Masayuki; Maeda, Minoru; Shinozaki, Fumiaki

PA Fuji Photo Film Co., Ltd. , Japan

SO Ger. Offen., 31 pp.

CODEN: GWXXBX

DT Patent

LA German

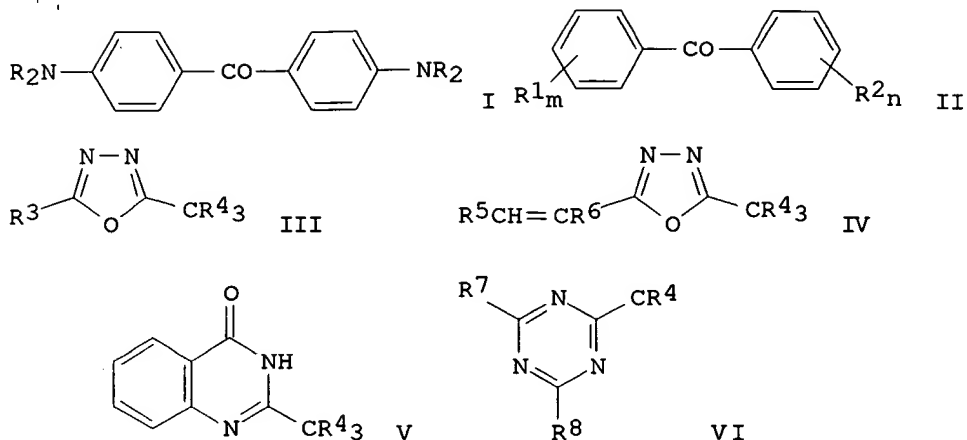
IC C08F002-50; G03C001-68; G03F007-00

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3339228	A1	19840503	DE 1983-3339228	19831028
	DE 3339228	C2	19941027		
	JP 59078339	A2	19840507	JP 1982-189536	19821028
	JP 03008536	B4	19910206		
	GB 2132212	A1	19840704	GB 1983-28774	19831027
	GB 2132212	B2	19860611		
	US 4584260	A	19860422	US 1985-741721	19850606
PRAI	JP 1982-189536		19821028		
	US 1983-546662		19831028		

GI



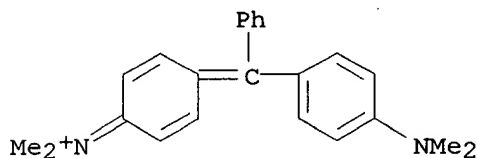
- AB Photopolymerizable compns. having a high sensitivity and which give photohardened layers having outstanding mech. strength contain an addn. polymerizable unsatd. compd. with .gtoreq.2 double bonds/mol. and a photopolymn. initiator system contg. a 4,4'-bis(dialkylamino)benzophenone (I; R = alkyl, hydroxyalkyl, an cycloalkyl, or together form a ring), a benzophenone deriv. (II; R_1 , R_2 = alkyl, alkoxy, CO_2H , alkoxycarbonyl, aryloxycarbonyl, or halo; m and n = 0, 1, 2), and a compd. selected from III, IV, V, VI, or $R_9SO_2CR_4$ (R_3 = substituted or unsubstituted Ph or naphthyl; R_4 = Cl or Br; R_5 = aryl; R_6 = H, alkyl, or aryl; R_7 = R_3 or CR_4^3 ; R_8 = CR_4^3 , NH_2 , NHR_{10} , NR_{210} , SR_{10} , OR_{10} , or R_{10} where R_{10} = alkyl, aryl, or alkenyl; and R_9 = R_3). Thus, a compn. contg. PMMA (av. mol. wt. of 140,000) 15, trimethylolpropane triacrylate 2.4, tetraethylene glycol diacrylate 6.1, 4,4'-bis(diethylamino)benzophenone 0.04, benzophenone 0.15, Ph tribromomethyl sulfone 0.37, p-methoxyphenol 0.01, p-toluenesulfonamide 1.62, malachite green 0.015, and MeCOEt 45 g was coated on a poly(ethylene terephthalate) support at 50 .mu.m (dry), laminated to a Cu-clad, glass fiber reinforced epoxy resin plate, and then imagewise exposed and developed to show a sensitivity of 10 steps.
- ST photopolymer photoimaging compn photoinitiator system; photoresist ternary photoinitiator system; resist photo ternary photoinitiator system; lithog plate photopolymer photoinitiator system; benzophenone deriv photoinitiator photoimaging; alkylaminobenzophenone deriv photoinitiator photoimaging; halomethyl sulfone deriv photoinitiator photoimaging; sulfone halomethyl deriv photoinitiator photoimaging; halomethyltriazine deriv photoinitiator photoimaging; halomethylquinazolinone deriv photoinitiator photoimaging; halomethyloxadiazole deriv photoinitiator photoimaging
- IT Lithographic plates
(photopolymerizable compns. contg. benzophenone deriv.-based ternary **photoinitiator** systems for fabrication of)
- IT Resists
(photo-, contg. benzophenone deriv.-based ternary **photoinitiator** systems)
- IT 90-93-7 90-94-8 119-61-9, uses and miscellaneous 134-85-0 611-94-9
3584-23-4 5558-95-2 6542-67-2 17025-47-7 72015-26-0 76168-40-6
RL: USES (Uses)
(photopolymerizable compn. with ternary **photoinitiator** system contg., for photoresists and lithog. plate fabrication)
- IT 603-48-5 1328-54-7 25086-15-1
RL: USES (Uses)
(photopolymerizable compns. contg. benzophenone deriv.-based ternary **photoinitiator** systems and, for lithog. plate fabrication)
- IT 70-55-3 150-76-5 **569-64-2** 9011-14-7 15625-89-5
17831-71-9
RL: USES (Uses)
(photoresist compns. contg. benzophenone deriv.-based ternary **photoinitiator** system and)
- IT **569-64-2**

RL: USES (Uses)

(photoresist compns. contg. benzophenone deriv.-based ternary
photoinitiator system and)

RN 569-64-2 HCAPLUS

CN Methanaminium, N-[4-[[4-(dimethylamino)phenyl]phenylmethylene]-2,5-
cyclohexadien-1-ylidene]-N-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

L10 ANSWER 48 OF 54 HCAPLUS COPYRIGHT 2000 ACS

AN 1984:446325 HCAPLUS

DN 101:46325

TI Photopolymerizable photosensitive composition

IN Ide, Hiroshi

PA Mitsubishi Chemical Industries Co., Ltd. , Japan

SO Eur. Pat. Appl., 30 pp.

CODEN: EPXXDW

DT Patent

LA English

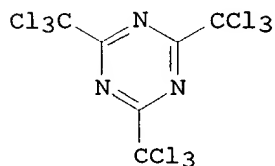
IC G03F007-10; C08F299-02

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other
Reprographic Processes)

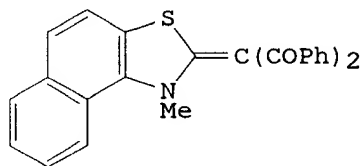
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 106351	A2	19840425	EP 1983-110346	19831017
	EP 106351	A3	19840912		
	EP 106351	B1	19870826		
	EP 106351	B2	19911009		
	R: DE, FR, GB, NL				
	JP 59071048	A2	19840421	JP 1982-182471	19821018
	JP 04069381	B4	19921106		
	AU 8319733	A1	19840503	AU 1983-19733	19830929
	AU 553478	B2	19860717		
	US 4537855	A	19850827	US 1983-540868	19831011
	CA 1258597	A1	19890822	CA 1983-438783	19831012
PRAI	JP 1982-182471		19821018		

GI



I



II

AB A photopolymerizable compn. is described which is useful for relief and offset (presensitized) plate fabrication, as well as for printed circuit fabrication, resist applications, soldering processes, and the like. The compn. comprises a photosensitive resin having polyfunctional ethylenically unsatd. groups in the side chains or end groups thereof and a photoinitiator. Thus, a grained and anodized Al plate was coated with a

compn. contg. Styrite CM-2L 0.45, Me methacrylate-methacrylic acid polymer 0.1, a polyfunctional polymer (prepd. by reaction of 0.01 mol of Styrite CM-2L with 0.02 mol of pentaerythritol triacrylate) 0.5, an initiator I 0.04, an initiator II 0.04, Victoria Pure Blue BOH 0.012, and Et cellosolve 18 g to a dry thickness 20 mg/dm², overcoated with a poly(vinyl alc.) layer, UV imagewise-exposed for 15 s at 1 m, and developed with 1% aq. Na silicate.

ST photoimaging photopolymeric compn printing plate; photoresist lithog elec circuit; lithog plate photopolymer compn

IT Photoimaging compositions and processes
(photopolymeric)

IT Lithographic plates
Printing plates
(photopolymeric photosensitive compn. for prepn. of)

IT Resists
(photo-, photopolymeric photosensitive compn. for)

IT Electric circuits
(printed, photopolymeric photosensitive compn. for fabrication of)

IT 814-68-6
RL: RCT (Reactant)
(esterification by, of glycerin)

IT 56-81-5, properties
RL: RCT (Reactant)
(esterification of, by acryloyl chloride)

IT 6542-67-2 19878-93-4
RL: USES (Uses)
(**photoinitiator**, photopolymeric photoimaging compn. contg.)

IT 117-81-7 149-30-4 2026-35-9 15625-89-5 25086-15-1 51204-92-3
54066-28-3 59217-34-4 72924-70-0 90879-82-6 90954-94-2
90954-95-3
RL: USES (Uses)
(photopolymeric photoimaging compn. contg.)

IT 1709-72-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and reaction with tertiary esterified styrene-maleic anhydride copolymer)

IT **54066-28-3**
RL: USES (Uses)
(photopolymeric photoimaging compn. contg.)

RN 54066-28-3 HCAPLUS

L10 ANSWER 49 OF 54 HCAPLUS COPYRIGHT 2000 ACS

AN 1980:485223 HCAPLUS

DN 93:85223

TI Radiation-sensitive copying composition

IN Buhr, Gerhard

PA Hoechst A.-G., Fed. Rep. Ger.

SO U.S., 9 pp.

CODEN: USXXAM

DT Patent

LA English

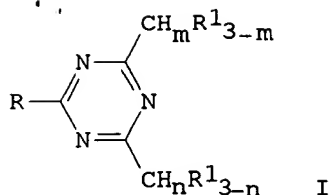
IC G03C001-68

NCL 430281000

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic Processes)

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4189323	A	19800219	US 1978-899272	19780424
	DE 2718259	A1	19781102	DE 1977-2718259	19770425
	DE 2718259	C2	19821125		
PRAI	DE 1977-2718259		19770425		
GI					



- AB Radiation-sensitive copying compns. for use in prepg. printing plates, color proofing films, resists, and the like are composed of an ethylenically unsatd. compd. capable of undergoing a polymn. reaction initiated by free radicals or a compd. capable of undergoing a cationic polymn. under the action of acid catalysts and an s-triazine of formula I (R = a substituted or unsubstituted bi- or polynuclear arom. or heterocyclic arom. group which can be partially hydrogenated and is linked by an unsatd. nuclear C atom; R¹ = Br or Cl; m, n = 0-3; and m + n = <5). Thus, an electrolytically roughened and anodized Al plate was whirl-coated with a coating soln. contg. trimethylolethane triacrylate 6.7, methacrylic acid-Me methacrylate copolymer (acid no 115) 6.5, I (R = 4-ethoxy-1-naphthyl; R¹ = Cl; m, n = 0) 0.12, ethylene glycol monoethyl ether 64.0, BuOAc 22.7, and 2,4-dinitro-6-chloro-2'-acetamido-5'-methoxy-4'-(.beta.-hydroxyethyl-.beta.'-cyanoethyl)aminoazobenzene 0.3 parts by wt. to give a 3-4 g/m² dry layer. After providing the plate with a 4 .mu.m thick protective layer of poly(vinyl alc.), the layer was exposed for 30 s at 110 cm to a 5 kW metal halide lamp under a line/screen original, and developed with 1.5% aq. Na metasilicate to give a neg. of the original that when used in an offset press produced 200,000 copies of good quality.
- ST chloromethyltriazine deriv copying compn; color proofing photosensitive chloromethyltriazine; printing plate photosensitive chloromethyltriazine; resist photo photosensitive chloromethyltriazine; photoresist photosensitive chloromethyltriazine
- IT Photoimaging compositions and processes
(contg. ethylenically unsatd. compds. and triazine derivs. for color proofing film prodn.)
- IT Printing plates
(photosensitive compns. for, contg. ethylenically unsatd. compds. and triazine derivs.)
- IT Epoxy resins, uses and miscellaneous
Phenolic resins, uses and miscellaneous
RL: USES (Uses)
(radiation-sensitive compns. contg. triazine derivs. and, for photoresists, color proofing films, and printing plates)
- IT Resists
(photo-, contg. ethylenically unsatd. compds. and triazine derivs.)
- IT 24481-45-6 24481-46-7 69432-40-2 69432-41-3 69432-42-4
69432-43-5 69432-44-6 69432-45-7 69432-46-8 69432-47-9
69432-53-7 69432-54-8 74217-61-1 74217-63-3
RL: USES (Uses)
(**photoinitiator**, in radiation-sensitive compns. for color proofing films, photoresists, and printing plates)
- IT 3813-01-2P 69432-48-0P 69432-49-1P 69432-50-4P 69432-51-5P
69432-57-1P 74217-62-2P 74217-64-4P 74217-65-5P 74217-66-6P
74217-67-7P 74217-68-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
- IT 109-16-0 **548-62-9** 1484-13-5 1628-58-6 9003-35-4
9016-83-5 19778-85-9 23807-28-5 24687-64-7 25068-38-6 25086-15-1
41137-60-4 58601-54-0 64502-14-3 69418-08-2 69666-21-3
74217-21-3 74217-60-0
RL: USES (Uses)
(radiation-sensitive compns. contg. triazine derivs. and, for photoresists, color proofing films, and printing plates)
- IT 545-06-2
RL: RCT (Reactant)

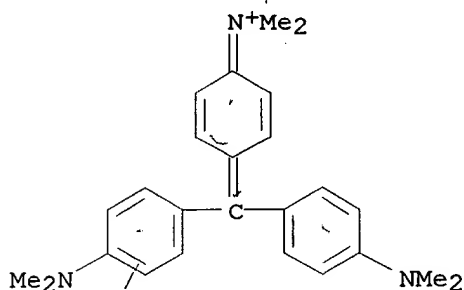
(reaction of, with ethoxynaphthalene in presence of aluminum bromide and hydrogen chloride)

IT 5328-01-8
 RL: RCT (Reactant)
 (reaction of, with trichloroacetonitrile in presence of aluminum bromide and hydrogen chloride)

IT 548-62-9
 RL: USES (Uses)
 (radiation-sensitive compns. contg. triazine derivs. and, for photoresists, color proofing films, and printing plates)

RN 548-62-9 HCAPLUS

CN Methanaminium, N-[4-[bis[4-(dimethylamino)phenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

L10 ANSWER 50 OF 54 HCAPLUS COPYRIGHT 2000 ACS

AN 1979:602241 HCAPLUS

DN 91:202241

TI 2-Halomethyl-5-vinyl-1,3,4-oxadiazole photoinitiators

IN Iwasaki, Masayuki

PA Fuji Photo Film Co., Ltd., Japan

SO Ger. Offen., 33 pp.
 CODEN: GWXXBX

DT Patent

LA German

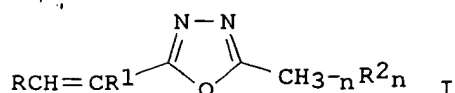
IC C07D271-10; C07D413-06

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic Processes)
 Section cross-reference(s): 28

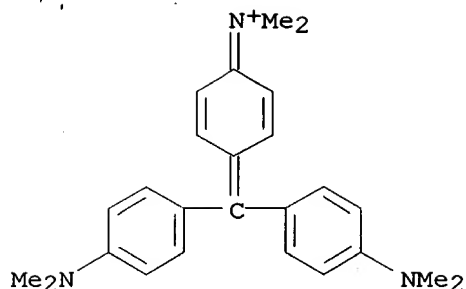
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2851471	A1	19790531	DE 1978-2851471	19781128
	DE 2851471	C2	19811126		
	JP 54074728	A2	19790615	JP 1977-142473	19771128
	JP 57006096	B4	19820203		
	JP 55024113	A2	19800221	JP 1978-96306	19780808
	JP 60027673	B4	19850629		
	US 4212970	A	19800715	US 1978-962851	19781122
	GB 2010259	A	19790627	GB 1978-45706	19781123
	GB 2010259	B2	19820317		
	FR 2409992	A1	19790622	FR 1978-33187	19781124
	FR 2409992	B1	19821231		
PRAI	JP 1977-142473		19771128		
	JP 1978-96306		19780808		

GI



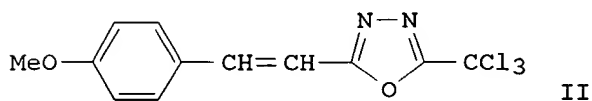
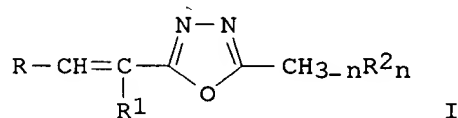
- AB The photoinitiator I (R = Ph, substituted Ph with a halogen in the 1- or 2-position or NO₂, CN, Cl-3 alkyl, or Cl-4 alkoxy in the 1-position, naphthyl, or 3,4-(methylenedioxy)phenyl; R¹ = H, Ph, or Cl-3 alkyl; R² = halogen; and n = 1-3) is used in a photosensitive compn. to produce visible images with actinic light which are humidity resistant and suitable for lithog. printing plates. Thus, p-methoxycinnamic acid 17.8 and p-nitrophenol 13.9 g were refluxed 1 h in SO₂Cl₂ 500 and benzene 50 mL, the excess SO₂Cl₂ and benzene were distd. off, the product 18.0, 80% hydrazine hydrate 11.4 g, and MeOH 75 mL were then refluxed 30 min, Et₃N 6.3 g was added, the mixt. was poured into H₂O 400 mL, the product 19.2 and hexachloroacetone 29.2 g were refluxed 20 min in MeCN 100 mL, the product 4 g and POCl₃ 40 mL were refluxed 3 h, the mixt. was poured into ice H₂O 200 g, and the ppt. was recrystd. from MeOH to give 2-trichloromethyl-5-(p-methoxystyryl)-1,3,4-oxadiazole (II) 2.5 g. An Al plate was coated with a mixt. of the ester of 1,2-naphthoquinone-2-diazide-5-sulfonyl chloride and pyrogallol-acetone resin 0.75, cresol novolak resin 2.1, tetrahydrophthalic acid anhydride 0.15, Crystal Violet 0.02, II 0.03, ethylene dichloride 18, and Me cellosolve 12 g, dried to 2.2 g/m², exposed to a 30-A C-arc lamp at 70 cm distance for 68 s through a grey scale of 0.15 d. steps, dipped in an aq. 5% Na silicate soln. at 25.degree. for 60 s (the optical d. was detd. before and after storage 7 days at 45.degree. and 75% relative humidity) to give a pos. image with an optical d. difference between the exposed and unexposed regions of 0.14 just 1 day after coating and 0.13 after the storage vs. 69 s, 0.00, and 0.00, resp., for a plate with 2-trichloromethyl-4-(p-methoxystyryl)quinazoline instead of II. The developed plate was useful as a lithog. plate.
- ST halomethylvinylloxadiazole photosensitive compn lithog plate;
photoinitiator halomethylvinylloxadiazole lithog plate
- IT Lithographic plates
(photosensitive compns. contg. halomethylvinylloxadiazole photoinitiator for)
- IT 71255-79-3 71255-81-7
RL: USES (Uses)
(photoinitiator, for photosensitive compns. contg. acetone-pyrogallol resin naphthaquinonediazidesulfonate for pos. image formation in lithog. plate prepn.)
- IT 85-43-8 548-62-9 603-48-5 1328-54-7 3770-97-6D, esters with acetone-pyrogallol resin 9016-83-5 24402-72-0 25085-50-1 38333-84-5D, esters with naphthoquinonediazidesulfonyl chloride 72015-33-9 72015-34-0
RL: USES (Uses)
(photosensitive compns. contg. halomethylvinylloxadiazole photoinitiator and, for pos. image formation in lithog. plate prepn.)
- IT 71255-80-6P 72015-19-1P 72015-20-4P 72015-21-5P 72015-22-6P 72015-23-7P 72015-24-8P 72015-25-9P 72015-26-0P 72015-27-1P 72015-28-2P 72015-29-3P 72015-30-6P 72015-31-7P 72015-32-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
- IT 548-62-9
RL: USES (Uses)
(photosensitive compns. contg. halomethylvinylloxadiazole photoinitiator and, for pos. image formation in lithog. plate prepn.)
- RN 548-62-9 HCAPLUS
- CN Methanaminium, N-[4-[bis[4-(dimethylamino)phenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, chloride (9CI) (CA INDEX NAME)



L10 ANSWER 51 OF 54 HCAPLUS COPYRIGHT 2000 ACS
 AN 1979:515384 HCAPLUS
 DN 91:115384
 TI Light-sensitive composition
 IN Iwasaki, Masayuki; Sato, Shigeru; Inoue, Yasuo; Nagashima, Akira
 PA Fuji Photo Film Co., Ltd., Japan
 SO Ger. Offen., 44 pp.
 CODEN: GWXXBX
 DT Patent
 LA German
 IC G03C001-727
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic Processes)
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2851472	A1	19790531	DE 1978-2851472	19781128
	DE 2851472	C2	19820902		
	JP 54074728	A2	19790615	JP 1977-142473	19771128
	JP 57006096	B4	19820203		
	US 4232106	A	19801104	US 1978-961164	19781116
	GB 2009437	A	19790613	GB 1978-45705	19781123
	GB 2009437	B2	19820902		
	FR 2410301	A1	19790622	FR 1978-33186	19781124
	FR 2410301	B1	19831007		
PRAI	JP 1977-142473		19771128		

GI



AB Photoinitiators I (R = aryl; R1 = H, alkyl, or aryl; R2 = Br, Cl, or F; and n = 1-3) for polymn. of photoresists at 300-500 nm for lithog. plates, relief plates, engraved plates, or photomasks in semiconductor-device fabrication produce photoresist images which are stable on storage and which can be made visible before development by incorporation of a color-changing agent in the original compn. Thus, p-methoxycinnamic acid 17.8, p-nitrophenol 13.9 g, SO2Cl2 50 mL, and benzene 50 mL were refluxed for 1 h, the excess SO2Cl2 and benzene were distd., the H2O-washed and dried solid 18.0, 80% hydrazine hydrate 11.4 g, and MeOH 75 mL were

refluxed for 30 min, the soln. was cooled and NEt₃ 6.3 g and H₂O to 400 mL added, the ppt. 19.2 and hexachloroacetone 29.2 g were refluxed for 20 min in MeCN 100 mL, the product 4 g and phosphoroxo chloride 40 mL were refluxed 3 h, the mixt. was added to ice H₂O 200 g, and the ppt. crystd. from MeOH to give II 2.5 g. A lithog. printing plate composed of an Al 0.15-mm thick support overcoated with a soln. of the ester product of 2-diazo-1,2-naphthoquinone-5-sulfonyl chloride with pyrogallol-acetone resin 0.75, cresol-Novalak resin 2.1, tetrahydrophthalic acid anhydride 0.15, Crystal Violet 0.02, II 0.03, ethylene dichloride 18, and Me cellosolve 12 g to a dry wt. of 2.2 g/mV² was exposed 68 s to a 30-A C arc lamp through a grey scale at 70 cm and developed with a 5% aq. Na silicate soln. (SiO₂/Na₂O = 1.74) at 25.degree. for 60 s to give an image with .DELTA.Dmax (difference between exposed and unexposed parts) of 0.14 immediately after development and 0.13 after 7 days storage at 45.degree. in a 75% humidity atm. vs. 0.00 and 0.00, resp., for an identical plate with 2-diazo-1,2-naphthoquinone-4-sulfonyl chloride instead of II.

ST halomethylvinylloxadiazole photoinitiator photopolymer; lithog plate photopolymer halomethylvinylloxadiazole photoinitiator; photoresist halomethylvinylloxadiazole photoinitiator

IT Photoimaging compositions and processes
(halomethylvinylloxadiazoles as **photoinitiators** in)

IT Lithographic plates
(photopolymerizable compns. for fabrication of, halomethylvinylloxadiazoles as **photoinitiators** in)

IT Vinyl acetal polymers
RL: USES (Uses)
(formals, photopolymerizable compns. contg. halomethylvinylloxadiazole **photoinitiator** and, for lithog. plate fabrication)

IT Resists
(photo-, halomethylvinylloxadiazoles as **photoinitiators** in)

IT 830-09-1
RL: RCT (Reactant)
(esterification by, of nitrophenol)

IT 100-02-7, properties
RL: RCT (Reactant)
(esterification of, by methoxycinnamic acid)

IT 71255-79-3 71255-80-6 71255-81-7
RL: USES (Uses)
(**photoinitiator**, for photopolymerizable compns. for lithog. plate fabrication and photoresists)

IT 76-61-9 85-43-8 117-81-7 121-69-7, uses and miscellaneous
548-62-9 603-48-5 1043-44-3 3770-97-6D, ester with acetone-pyrogallol condensation product 9016-83-5 9016-83-5D, esters with naphthoquinonediazidesulfonyl chloride 15625-89-5 24402-72-0 24979-70-2D, esters with naphthoquinonediazidesulfonyl chloride 25085-50-1 25086-15-1 37231-66-6 38333-84-5D, ester with naphthoquinonediazidesulfonyl chloride 39277-77-5 58608-19-8 71329-63-0
RL: USES (Uses)
(photopolymerizable compns. contg. halomethylvinylloxadiazole **photoinitiator** and, for lithog. plate fabrication)

IT 32630-58-3
RL: USES (Uses)
(photopolymerizable compns. contg., for photoresists and lithog. plates)

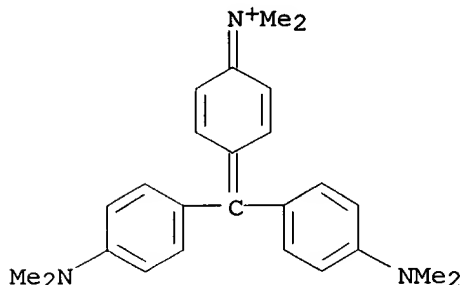
IT 71255-83-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and reaction of, with hexachloroacetone)

IT 71255-82-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and reaction of, with hydrazine)

IT 71255-85-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and ring closure of)

IT 116-16-5
RL: RCT (Reactant)
(reaction of, with methoxycinnamic acid hydrazide)

IT 71255-84-0
 RL: RCT (Reactant)
 (ring closure of)
 IT 548-62-9
 RL: USES (Uses)
 (photopolymerizable compns. contg. halomethylvinylloxadiazole
photoinitiator and, for lithog. plate fabrication)
 RN 548-62-9 HCAPLUS
 CN Methanaminium, N-[4-[bis[4-(dimethylamino)phenyl]methylene]-2,5-
 cyclohexadien-1-ylidene]-N-methyl-, chloride (9CI) (CA INDEX NAME)



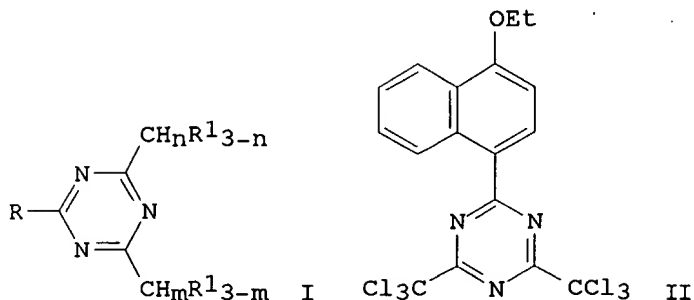
● Cl⁻

L10 ANSWER 52 OF 54 HCAPLUS COPYRIGHT 2000 ACS
 AN 1979:113034 HCAPLUS
 DN 90:113034
 TI Radiation-sensitive copying material
 IN Buhr, Gerhard
 PA Hoechst A.-G., Ger.
 SO Ger. Offen., 36 pp.
 CODEN: GWXXBX
 DT Patent
 LA German
 IC G03C001-727
 CC 74-8 (Radiation Chemistry, Photochemistry, and Photographic Processes)
 Section cross-reference(s): 28

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2718259	A1	19781102	DE 1977-2718259	19770425
	DE 2718259	C2	19821125		
	SE 7804588	A	19781026	SE 1978-4588	19780421
	SE 423286	B	19820426		
	SE 423286	C	19820805		
	NL 7804304	A	19781027	NL 1978-4304	19780421
	NL 185179	B	19890901		
	NL 185179	C	19900201		
	AU 7835355	A1	19791025	AU 1978-35355	19780421
	AU 514951	B2	19810305		
	CA 1103508	A1	19810623	CA 1978-301635	19780421
	BE 866306	A1	19781024	BE 1978-187055	19780424
	DK 7801768	A	19781026	DK 1978-1768	19780424
	JP 53133428	A2	19781121	JP 1978-49195	19780424
	JP 62044258	B4	19870918		
	FR 2389157	A1	19781124	FR 1978-12010	19780424
	FR 2389157	B1	19801031		
	BR 7802525	A	19781205	BR 1978-2525	19780424
	ZA 7802332	A	19790425	ZA 1978-2332	19780424
	ES 469089	A1	19790916	ES 1978-469089	19780424
	US 4189323	A	19800219	US 1978-899272	19780424

GB 1602903 A 19811118 GB 1978-16075 19780424
 CH 634158 A 19830114 CH 1978-4420 19780424
 PRAI DE 1977-2718259 19770425
 GI



AB S-Triazine derivs. (I; R = an addnl. substituted 2- or 3-ring arom. or heterocyclic arom. group attached by an arom. C atom; $\text{R}_1 = \text{Br}$ or Cl ; $m, n = 0-3$, and $m+n \leq 5$) are described for use as photoinitiators in a variety of radiation sensitive compns. based on free-radical-based polymn. or decolorization or, on the other hand, the liberation of an acid and its subsequent reactions. Thus, a compn. for use in prepg. an Al-based offset printing plate contained trimethylolethane triacrylate 6.7, a methacrylic acid-Me methacrylate copolymer 6.5, ethylene glycol mono-Et ether 64.0, UOAc 22.7, 2,4-dinitro-6-chloro-2'-acetamido-5'-methoxy-4'-(.beta.-hydroxyethyl-.beta.'-cyanoethylamino)azobenzene 0.3, and II 0.12 part. The resulting plate gave unobjectionable prints even after 200,000 prints had been produced.

ST triazine deriv photoinitiator photoimaging compn

IT Phenolic resins, uses and miscellaneous
 RL: USES (Uses)
 (photosensitive compn. contg. triazine deriv. **photoinitiator** and, for lithog. plate fabrication)

IT Lithographic plates
 Printing plates
 (photosensitive compns. for fabrication of, triazine derivs. as **photoinitiators** in)

IT Photoimaging compositions and processes
 (triazine derivs. as **photoinitiators** for use in)

IT Resists
 (electron-beam, contg. triazine derivs. as **photoinitiators**)

IT Epoxy resins, uses and miscellaneous
 RL: USES (Uses)
 (phenolic, photosensitive compn. contg. triazine deriv. **photoinitiator** and, for lithog. plate fabrication)

IT Resists
 (photo-, contg. triazine derivs. as **photoinitiators**)

IT 545-06-2
 RL: RCT (Reactant)
 (Friede-Crafts reaction of, with ethoxynaphthalene)

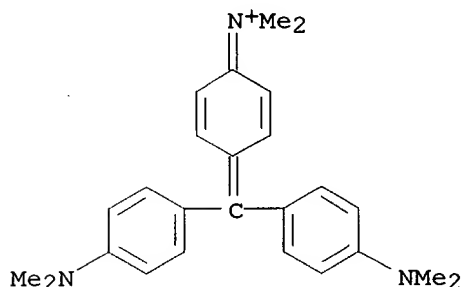
IT 5328-01-8
 RL: RCT (Reactant)
 (Friedel-Crafts reaction of, with trichloroacetylnitrile)

IT 64502-06-3 69418-08-2 69468-60-6
 RL: USES (Uses)
 (electron-beam sensitive compn. contg. triazine deriv. initiator and)

IT 24481-45-6 24481-46-7 69432-40-2 69432-41-3 69432-42-4
 69432-43-5 69432-44-6 69432-45-7 69432-46-8 69432-47-9
 RL: USES (Uses)
 (**photoinitiator**, for photosensitive compns. for imaging and printing plate fabrication)

IT 19778-85-9 23807-28-5 25086-15-1
 RL: USES (Uses)

(photopolymerizable compns. contg. triazine deriv.
photoinitiator and, for printing plate fabrication)
 IT 109-16-0 41137-60-4 58601-54-0
 RL: USES (Uses)
 (photoresist compn. contg. triazine deriv. **photoinitiator**
 and)
 IT **548-62-9** 1484-13-5 1628-58-6 9003-35-4 9016-83-5
 24687-64-7 25068-38-6
 RL: USES (Uses)
 (photosensitive compn. contg. triazine deriv. **photoinitiator**
 and, for lithog. plate fabrication)
 IT 69432-48-0P 69432-49-1P 69432-50-4P 69432-51-5P 69432-52-6P
 69432-53-7P 69432-54-8P 69432-55-9P 69432-56-0P 69432-57-1P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of)
 IT **548-62-9**
 RL: USES (Uses)
 (photosensitive compn. contg. triazine deriv. **photoinitiator**
 and, for lithog. plate fabrication)
 RN 548-62-9 HCAPLUS
 CN Methanaminium, N-[4-[bis[4-(dimethylamino)phenyl]methylene]-2,5-
 cyclohexadien-1-ylidene]-N-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

L10 ANSWER 53 OF 54 HCAPLUS COPYRIGHT 2000 ACS
 AN 1978:161479 HCAPLUS
 DN 88:161479
 TI Stable photopolymerizable mass
 IN Yamazaki, Toshio; Cook, Harriet J.; Lipson, Melvin A.
 PA Dynachem Corp., USA
 SO Ger. Offen., 55 pp.
 CODEN: GWXXBX
 DT Patent
 LA German
 IC C08L033-00
 CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic Processes)
 Section cross-reference(s): 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2718200	A1	19771027	DE 1977-2718200	19770423
	DE 2718200	C2	19821230		
	<u>US 4065315</u>	A	19771227	US 1976-680304	19760426
	IL 51638	A1	19800630	IL 1977-51638	19770309
	AU 7723170	A1	19780914	AU 1977-23170	19770311
	AU 508227	B2	19800313		
	CA 1103083	A1	19810616	CA 1977-274554	19770323
	JP 52130701	A2	19771102	JP 1977-38011	19770402
	JP 60012623	B4	19850402		

CH 618990	A	19800829	CH 1977-4299	19770405
SE 7704646	A	19771130	SE 1977-4646	19770422
SE 435105	B	19840903		
SE 435105	C	19841213		
DD 130810	C	19780503	DD 1977-198552	19770422
BE 853935	A1	19770816	BE 1977-176998	19770425
BR 7702613	A	19780404	BR 1977-2613	19770425
GB 1555215	A	19791107	GB 1977-17206	19770425
NL 7704529	A	19771028	NL 1977-4529	19770426
NL 174766	B	19840301		
NL 174766	C	19840801		
FR 2349856	A1	19771125	FR 1977-12577	19770426
FR 2349856	B1	19811120		

PRAI US 1976-680304 19760426

AB Stable photopolymerizable compns. contain an addn. polymerizable ethylenically unsatd. compd. with .gtoreq.1 terminal ethylenic group and having a boiling p. .gtoreq.100.degree. at atm. pressure, a free-radical-forming addn. polymn. initiator, a free base of a dye whose halide salt is more colored than the free base, and a halogen-contg. compd. giving halogen-contg. radicals on exposure to light. Thus, a photopolymerizable compn. giving a stable image contained Acryloid A-101 40.0, trimethylolpropane triacrylate 13.0, triethylene glycol diacrylate 6.5, bezophenone 2.25, 4,4'-bis(dimethylamino)benzophenone 0.3, 2,2'-methylenebis(4-ethyl-6-tert-butylphenol) 0.12, Rhodamine B base 0.6, trichloroacetamide 1.8, 2-mercaptobenzoxazole 0.33, Modaflow 0.10, tricresyl phosphate 2.88, and MeCOEt 130 parts by wt.

ST photoimaging compn free radical; photoresist printed circuit fabrication

IT Paraffin waxes and Hydrocarbon waxes, uses and miscellaneous

RL: USES (Uses)

(chlorinated, photopolymerizable compns. contg., for photoimaging compns. and photoresists)

IT Acrylic polymers, uses and miscellaneous

Soybean oil

RL: USES (Uses)

(photopolymerizable compns. contg., for photoimaging compns. and photoresists)

IT Photoimaging compositions and processes

(free-radical, for colored image formation)

IT Resists

(photo-, free radical-initiated photopolymerizable compns. for)

IT Electric circuits

(printed, free-radical **photoinitiated** photopolymerizable compns. for fabrication of)

IT 50-29-3, uses and miscellaneous 57-15-8 88-24-4 90-94-8 96-13-9

99-98-9 101-61-1 115-20-8 118-74-1 119-61-9, uses and

miscellaneous 134-32-7 509-34-2 **548-62-9 569-64-2**

594-65-0 1332-85-0 2382-96-9 2390-63-8 8004-87-3 15625-89-5

17831-71-9 37243-53-1 66231-28-5 66231-29-6 66231-30-9

66231-31-0 66231-32-1 66231-33-2

RL: USES (Uses)

(photopolymerizable compns. contg., for photoimaging and photoresists)

IT 50-29-3, uses and miscellaneous 56-23-5, uses and miscellaneous

67-72-1 75-03-6 75-47-8 76-03-9, uses and miscellaneous 80-62-6

87-82-1 90-94-8 95-14-7 96-13-9 115-96-8 126-72-7 128-09-6

134-85-0 135-49-9 467-63-0 509-34-2 558-13-4 594-65-0 634-93-5

818-61-1 1124-05-6 1325-85-5 1325-86-6 2223-82-7 **2390-59-2**

2412-14-8 **3248-93-9** 3524-68-3 4986-89-4 5330-18-7

5385-11-5 6066-04-2 6359-45-1 6837-66-7 **6837-75-8**

9002-86-2 9003-01-4D, esters, reaction products with epoxidized soybean oil 9010-92-8 9011-14-7 9059-79-4 12542-30-2 13686-37-8

25215-62-7 36355-01-8 36511-35-0 39280-08-5 39327-11-2

40715-86-4 52016-01-0 52080-58-7 66208-29-5 66208-30-8

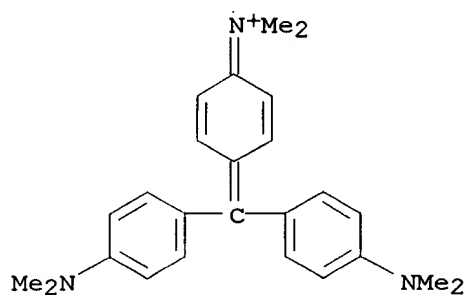
66217-53-6 66225-66-9 66231-34-3 66231-35-4

RL: USES (Uses)

(photopolymerizable compns. contg., for photoimaging compns. and photoresists)

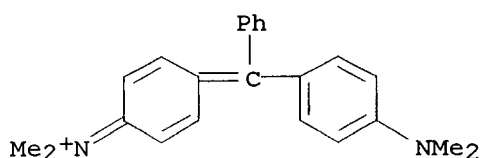
IT **548-62-9 569-64-2**

4. RL: USES (Uses)
 (photopolymerizable compns. contg., for photoimaging and photoresists)
 RN 548-62-9 HCAPLUS
 CN Methanaminium, N-[4-[bis[4-(dimethylamino)phenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, chloride (9CI) (CA INDEX NAME)



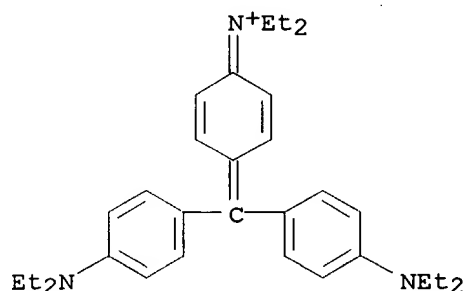
● Cl⁻

RN 569-64-2 HCAPLUS
 CN Methanaminium, N-[4-[[4-(dimethylamino)phenyl]phenylmethylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, chloride (9CI) (CA INDEX NAME)



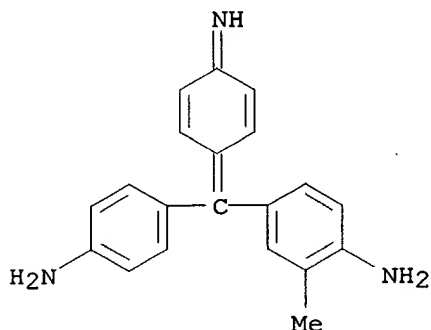
● Cl⁻

IT 2390-59-2 3248-93-9 6837-75-8
 RL: USES (Uses)
 (photopolymerizable compns. contg., for photoimaging compns. and photoresists)
 RN 2390-59-2 HCAPLUS
 CN Ethanaminium, N-[4-[bis[4-(diethylamino)phenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-ethyl-, chloride (9CI) (CA INDEX NAME)

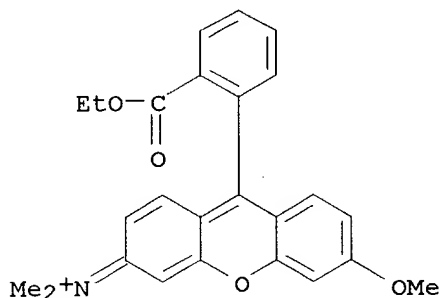


● Cl⁻

RN 3248-93-9 HCAPLUS
 CN Benzenamine, 4-[(4-aminophenyl)(4-imino-2,5-cyclohexadien-1-ylidene)methyl]-2-methyl- (9CI) (CA INDEX NAME)



RN 6837-75-8 HCAPLUS
 CN Methanaminium, N-[9-[2-(ethoxycarbonyl)phenyl]-6-methoxy-3H-xanthen-3-ylidene]-N-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

L10 ANSWER 54 OF 54 HCAPLUS COPYRIGHT 2000 ACS
 AN 1974:65542 HCAPLUS
 DN 80:65542
 TI Photoresist compositions
 IN Iwama, Hideaki; Iwaki, Akio
 PA Konishiroku Photo Industry Co., Ltd.
 SO Japan. Kokai, 15 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 NCL 116A415
 CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic Processes)
 Section cross-reference(s): 36
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 48073206	A2	19731003	JP 1972-2438	19711227
	JP 51014041	B4	19760506		

GI For diagram(s), see printed CA Issue.

AB Photoresist compns. contain a copolymer (I; R, R2, R4 = H, CO2H, or CONH2 and .gtoreq.1 CO2H; R1,R3 = H or lower alkyl; R5 = H, lower alkyl, or CO2Me; Z = org. group; l = 0 or 1; R6 = H, lower alkyl, or Ph; R7, R8 = H, lower alkyl; or when l = 0, R6 R7 may form a N-contg. heterocycle, and R2R8 together with the benzene ring may form a naphthalene ring; m,n = 5-10,000), partially or totally neutralized by an alkali metal, and a

photosensitizer contg. halogenated Me groups. Thus, a compn. of tribromomethyl phenyl sulfone 1.0, 2-(m-tolylpropylamino)ethyl methacrylate-methacrylic acid (4:6) copolymer (5% neutralized by Li) 3.0, triphenylmethane dye Victoria Pure Blue BOH 0.06, and cellulose Et ether 0.1 g in 50 ml. MeOCH₂CH₂OH-MeOH (1:1 vol.) mixt. was coated on a polished Zn plate, dried, exposed to C arc through a neg. developed for 1 min in H₂O at 35-40.degree., treated with an aq. citric acid-tartaric acid soln., and etched with a com. etching soln. to give a long-life printing plate.

ST photoresist printing plate; acrylate copolymer photoresist; methacrylate copolymer photoresist

IT Printing plates
(photoresists compns. contg. acrylic polymers and halomethyl group-contg. **photoinitiators** for)

IT Acrylic polymers
RL: USES (Uses)
(photoresists compns. contg. halomethyl group-contg. **photoinitiators** and, for printing plates)

IT 17025-47-7
RL: USES (Uses)
(photoresists compns. contg. acrylic polymers and, for printing plates)

IT **51938-69-3**
RL: USES (Uses)
(photoresists compns. contg. acrylic polymers, halomethyl group-contg. photosensitizers and, for printing plates)

IT 51998-70-0
RL: USES (Uses)
(photoresists compns. contg. bromomethyl phenyl sulfone and, for printing plates)

IT **51938-69-3**
RL: USES (Uses)
(photoresists compns. contg. acrylic polymers, halomethyl group-contg. photosensitizers and, for printing plates)